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ROYAL UNITED SERVICE INSTITUTION.

VOL. LI. OCTOBER, 1907. No. 356.

[*Authors alone are responsible for the contents of their respective Papers.*]

SECRETARY'S NOTES.

1. OFFICERS JOINED.

Colonel C. F. N. Macready, C.B., A.A.G.
Major E. S. Jackson, late 6th Dragoons.
Lieutenant M. C. Gribbon, Indian Army.
Captain P. Howell, Indian Army.
Captain H. M. Durand, 9th Lancers.

(No Officers of the Royal Navy, Royal Naval Reserve, Militia, Yeomanry, or Volunteers joined during the month of September.)

Officers wishing to join the Institution are reminded that no further payment will be required of them until 1909, should they elect to become Members during the last three months of 1907.

2. MILITARY HISTORY LECTURES.

The Council has arranged for a course of lectures in Military History on the subjects set for the November Promotion Examinations. The Lecturer will be Mr. J. H. Anderson, F.R. Hist. Soc., Barrister-at-Law. The Lectures will take place on the following dates, at 4 p.m.:—

Friday,	18th October.	Tuesday,	22nd October.
,,	25th October.	,,	29th October.
,,	1st November.	,,	5th November.
,,	8th November.	,,	12th November.
,,	15th November.	,,	19th November.

The fee for the Course of Lectures is one guinea for members of the Institution and two guineas for non-members.

Application to attend, enclosing the fee, to be addressed to the Assistant Secretary, Royal United Service Institution, Whitehall, S.W.

3. UNITED SERVICE INSTITUTION OF INDIA.

The Council have chosen as the subject for the Gold Medal Essay for 1908 the following:—

"The manner in which the Infantry attack can best be supported by Artillery Fire, having regard to the present system of Artillery Training and to recent improvements in material."

The conditions of competition may be obtained on application to the Secretary at Simla.

4. ADDITIONS TO THE MUSEUM.

a. A set of eight engravings, dated 1702-1708, entitled "England's Glory," being illustrative of the Naval Achievements of the period.—(*Purchased.*)

b. A portrait in crayons of Commander Bird Allen, R.N., drawn in 1844 by Samuel Laurence.—*Given by J. Allen, Esq.*

c. A collection of prints in colours from 1829-1860 of British and Indian Military Uniforms.

d. A Portrait in oils of Admiral Sir Charles Napier, K.C.B.

Sir Charles Napier was born on 6th March, 1786, the son of Captain the Honourable Charles Napier, R.N., of Merchistoun Hall, Stirling. He entered the Navy on the 1st November, 1799, as First-Class Volunteer on board the "Martin" sloop, and was soon transferred to the "Renown," flagship of Sir John Borlase Warren. As Commander of the "Recruit" brig he was wounded in action with the French corvette "Diligente," and he later distinguished himself in the pursuit of three French ships, ending in the capture of the "Hautpoult," and was promoted to Captain in 1809. He served as a Volunteer with the Army in Portugal, and was present at the Battle of Busaco. Napier commanded the "Euryalus" in the expedition to Alexandria, in America, and at the destruction of shipping in the Potomac in 1814. He subsequently entered the service of Don Pedro and established Donna Maria on the Throne of Portugal by his victory over the fleet of Don Miguel off Cape St. Vincent in 1833. He was Second-in-Command of the fleet, under Sir Robert Stopford, in the operations on the Coast of Syria in 1840, when he bombarded and stormed Sidon, and defeated a large force of Egyptians near Beyrout. Having taken part in the capture of St. Jean d'Acre, he commanded the Baltic Fleet in the war with Russia (1854-5).

In the year 1828 Napier submitted to the Admiralty the model of a ship, afterwards placed in the United Service Museum; and in 1846 he was engaged in constructing the "Sidon," a steam frigate of 560 horse-power. Several articles from his pen are to be found in the pages of the *United Service Journal*. He was also the author of "An Account of the War in Portugal between Don Pedro and Don Miguel," published in 1836, and of "The War in Syria," published in 1842.

Napier was created a K.C.B. on the 4th December, 1840. He also wore the Cross of the Order of Maria Theresa of Austria, and the Cross of the Order of St. George of Russia, and the Insignia of the Second-class of the Order of the Red Eagle of Prussia. He died in 1860.—(*Purchased.*)

c. A large glass screen for exhibiting the collection of autograph letters hitherto unseen.

Designed and given by Lieut.-Colonel A. Leetham, Curator of the Museum.

5. Copies of the JOURNAL for March, 1907, are much needed. Officers possessing them (who should have no further use for them) are requested to return them to the Secretary.

6. The Council desires to intimate that bicycles and luggage must on no account be left in the Entrance Halls.

7. LECTURES.

The following lectures have been arranged :—

Wednesday, October 30th.—"Artillery in the Manchurian Campaign." By Captain B. Vincent, R.F.A.

Wednesday, November 6th.—"The Strategical and Economical Effect of the Opening of the Panama Canal." By Archibald R. Colquhoun, Esq., Gold Medallist, Royal Geographical Society. Major-General Sir T. Fraser, K.C.B., C.M.G., in the Chair.

Thursday, November 7th.—"The Swiss Military System." By Lieut.-Colonel C. Delmé-Radcliffe, C.M.G., M.V.O., *p.s.c.*, British Military Attaché at Rome and Berne. Field-Marshal the Right Hon. the Earl Roberts, V.C., K.G., etc., in the Chair.

Wednesday, November 13th.—"The Use of the Horse Soldier in the 20th Century." By Captain C. W. Battine, late 15th Hussars. The Right Hon. Sir Charles W. Dilke, Bart., M.P., in the Chair.

Wednesday, November 20th.—"Night Operations." By Brigadier-General Sir H. S. Rawlinson, Bart., C.V.O., C.B., *p.s.c.*, Commanding 2nd Infantry Brigade, Aldershot Command.

Wednesday, November 27th.—"Whitehall Palace, and the Execution of Charles I." By the Rev. Canon Edgar Sheppard, C.V.O., D.D., Sub-Dean of His Majesty's Chapels Royal. Major-General Sir G. H. Marshall, K.C.B. (Chairman of the Council), in the Chair.

8. ARMY PROMOTION EXAMINATIONS.

The Council is arranging for courses of lectures to be given in future in *a.* Military Law; *b.* Administration and Organisation, for the benefit of officers proceeding to be examined for promotion. The arrangements for these courses will be similar to those now in force for Military History.

9. GOLD MEDAL ESSAYS.

The following Essays have up to the present been received from candidates for the 1907 Gold Medal:

"La Critique est facile, L'Art est difficile."
"Auri sacra fames."
"Pro rege et patria."
"Over Fork Over."

Candidates are reminded that all Essays must be received on or before November 14th, 1907.

10. The restoration of the Rubens Ceiling in the Museum having been completed, and the decoration of the Hall being now in progress, the Council hope that the Museum may be re-opened to the public by the middle of December.

THE MILITARY SYSTEM OF THE FUTURE IN THE BRITISH EMPIRE.

Communicated by desire of the Secretary of State for War.

(Continued from September JOURNAL, p. 1075, and Concluded).

II.

THE problem of the Army, as experience gained during the South African War revealed it, was discussed at some length under the above heading in the September number of this JOURNAL.

It is proposed now to indicate as briefly as possible what has been done, and what is being done, in this country at any rate, with a view to arriving at some solution of the problem. First, however, the problem itself in its various aspects may with advantage be concisely re-stated. The chief questions with which the military administrators, or rather the Statesmen of the Empire generally, are confronted, may be summarised as follows:—

1st. To provide adequate forces for the defence of the various self-governing portions of the Empire.

2nd. To furnish in peace sufficient garrisons for India, for Egypt, for coaling stations abroad, and for certain Crown Colonies.

3rd. To place in the field immediately on the outbreak of war in the highest state of efficiency as large an Expeditionary Force as is possible, compatible with the peace military expenditure.

4th. To maintain both that Force and existing garrisons abroad, throughout the continuance of hostilities, undiminished in numbers and efficiency.

5th. To provide powers of expansion for service oversea outside the limits of the Expeditionary Force.

For the British Empire all other military questions arise out of, and are governed by, these five fundamental requirements. Be it noted, too, that these main objectives, although classified separately in different categories, form in reality one gigantic problem, of which no one portion can be adequately treated before a clear view is obtained of the effect which such treatment will have on the other portions.

For instance, it would be contrary to reason to concentrate our efforts on meeting the third or the fourth of these requirements, and to leave the second unfulfilled. Nor should the question of reinforcing the Expeditionary Force by means of new units be even taken into consideration until the maintenance of the strength of its original units is assured throughout the continuance of hostilities.

Again, to spend large sums on military forces, which are available for local defence only, and to starve those which are liable for general service, would, in an Empire whose very existence depends on sea power, and the ubiquity of its land forces, mean that strategical mobility would be sacrificed, and Imperial Defence imperilled.

There is, in truth, an ever constant need of iterating and reiterating the axiom, that the whole is greater than its part. Self-evident as such a thesis may appear, more than one instance could yet be quoted where, in recent years, disastrous mistakes have been made owing to this wholesome truth being either lost sight of or neglected.

When the subject of military reconstruction was approached from what may be termed the Imperial standpoint, two measures antecedent to administrative action proved to be necessary. The first was to call into being a school of thought capable of dealing scientifically with the military problem to which allusion has been made already; the second was to gain for this school, and all that it stands for, universal recognition throughout the Empire. In so far as a General Staff can be created by regulations, the first of these objects was finally attained by the issue of the special Army Order of 12th September, 1906, which laid down in detail the functions and the establishment of a General Staff. Obviously, however, although much good work has already been accomplished in a brief space of time, strenuous efforts will still be required before the first of these objects can be regarded as being fully attained. The second object, too, was only partially accomplished when at the recent Colonial conference every State represented accepted in principle the formation of one General Staff for the Empire as a whole.

But the creation and the widest acceptance of the General Staff are but means to an end. Clearly, one of the first tasks for such a body would be to prescribe in detail the war organisation considered most suitable for the military forces of the Empire. Speaking generally, when this matter was faced, the choice lay between two alternatives, an Army Corps organisation or a Divisional organisation.

Theoretically, an Army Corps organisation had existed for many years in the United Kingdom. In 1878, the country was, on paper, divided into 8 Army Corps districts, and in 1901 a further attempt was made to give practical effect to the organisation of the troops in these islands in 6 Army Corps. From an Imperial standpoint the objections to such an organisation are, however, numerous. First, the Army Corps proved itself an unsuitable formation in South Africa, and the original order of battle, in which an Army Corps figured, soon developed into a purely Divisional organisation. Secondly, India has deliberately rejected the Army Corps as far as she is concerned, and has adopted as the basis of her military re-construction a Division consisting of three Infantry Brigades. Thirdly, for very many years to come an Army Corps organisation would be wholly beyond the powers of certain sparsely inhabited Dominions beyond the seas to attain. Even in a thickly inhabited country like the United Kingdom, the administrative objections to the Army Corps as a unit of organisation are considerable. If territorialisation is to be recognised at all, such an organisation entailed in the past all forces, Regulars, Militia, Yeomanry, and Volunteers being indiscriminately massed for all purposes as one body, under one commander, regardless altogether of the fact that they exist for entirely different purposes. Moreover,

under a voluntary system, anything like scientific distribution would appear to be impossible, so much so that, by the 1901 scheme, one Army Corps district embraced an area containing about one-third of the population of the United Kingdom.

Per contra, Japan has recently shown in operations on a grand scale, and with conditions very similar to those under which a British Imperial Army might have to act, how elastic and easily adapted to varying circumstances the less ambitious Divisional organisation can be made.

For these and other reasons, which it is unnecessary to specify, the General Staff, after mature deliberation, recommended the Division of three Infantry Brigades, with a due proportion of other arms and services, as the most suitable pattern towards which the military administrators of the Empire should be asked to work in future.

War establishments, based on this hypothesis, have been already elaborated, and, as far as the Regular Troops in the United Kingdom are concerned, the new order of things was promulgated by Army Order 28 of 1907. By this Army Order, six of the new Divisions were formed, each complete in itself, and since then certain small changes in establishments have been effected, and an Artillery Brigadier has been appointed to each Division to command its Artillery.

The organisation of the four existing Cavalry Brigades in the United Kingdom remains untouched, but in war it is proposed to group them under one commander into a great Cavalry Division for strategical employment. The immediate protection of the Infantry Divisions will be entrusted to Mounted Brigades, specially formed for the purpose, and it is hoped that it will prove possible to employ troops or squadrons drawn from the Cavalry of the new Territorial Army to fulfil the *rôle* of Divisional Cavalry.

The six Infantry Divisions, with the Cavalry Division, certain Army troops, and troops and services for the lines of communication, will form an Expeditionary Force of some 160,000 to 170,000 officers and men. The size of this Expeditionary Force is not decided by, nor is it pretended that it is at all commensurate with the strategical needs of the Empire. Look where one will, contingencies exist which may, in the near or distant future, necessitate the employment at short notice for the defence of Imperial interests of a much larger force; and the hope may not be vain that other States in the Empire, besides the Mother country, will some day hold a portion of their military forces, as bodies organised for this special purpose, in constant readiness for operations over seas.

Be this as it may, however, the size of the force which could at short notice be despatched from these shores is practically determined by the working of the Cardwell System. In the deliberate opinion of those best qualified to judge, that system does enable us to fulfil the second and third of our main requirements both more economically and more efficiently than any other. Under that system the number of units of Cavalry, Artillery, and Infantry, which are necessarily maintained at home in peace for the purpose of supplying drafts for the units serving abroad is approximately equal to the number of units required for 4 Cavalry Brigades and 6 Infantry Divisions of the new pattern.

As was several times explained by the Secretary of State in Parliament, the combatant portion of the Expeditionary

Force will, as in the past, consist of Regular units raised to war establishment by means of Reservists who have passed through their ranks. It is chiefly among the technical and administrative services that, on mobilisation, the introduction of the Special Contingent man will be permitted, and this only to a limited extent.

The maintenance of the Expeditionary Force during hostilities rests, however, on a somewhat different foundation. In Part I. of this Paper the difficulties which attended the maintenance of the forces in South Africa were explained, even though in this case ample time for improvisation was available; further, the inconvenience of utilising Militia units for this purpose, as was originally proposed by Mr. Cardwell, was demonstrated. Allusion was also made to the dangers arising from the absence of any adequate machinery to replace the home units of Cavalry, Artillery, and various Services, when these were mobilised and sent abroad. Owing to considerations of space, a full description cannot now be given of the remedial measures by which it is intended to prevent such a condition of affairs recurring in any further war. For the moment, it must suffice to point out that, for all arms and services, the provision of adequate training machinery, to be at once set working on mobilisation, forms an integral portion of the work of reconstruction, which the passing of the Territorial and Reserve Forces Bill has rendered practicable. Moreover, by the provisions of Part III. of the new Act, the Army Council will be enabled to ensure that this necessary machinery shall not, in war, come to a stand-still for want of grist to grind.

So far, the steps which are being taken to fulfil the 2nd, 3rd, and 4th of the main functions of the Army, indicated on page 1183, have been under discussion. We come now to the consideration of the 1st and 5th of these requirements, namely, the raising and organisation of forces for home defence, and for the expansion in war of the troops engaged in oversea operations. No proposition, perhaps, is less in need of demonstration than this, that it is a primary duty of every self-governing portion of the Empire to make provision, up to the limits of its resources, for its own defence against local dangers, *i.e.*, such dangers as the Navy cannot wholly or in part guard against. Till this is done Imperial defence in its widest aspect may at any moment be neutralised.

It was the threat of danger at home which compelled Rome to withdraw her Foreign Service legions, one by one, from her distant frontiers. For political reasons, her Emperors dared not revive citizen service in any shape or form. She trusted in professional forces alone, and as external perils multiplied, all she could do was, first, to increase the numbers of those forces, to a point where demand far exceeded natural supply, and efficiency was in consequence sacrificed; and later, when this method failed, she could only endeavour to lessen her military liabilities by narrowing her frontiers. In other words, she attempted to guarantee defence at home at the cost of her Empire. The dangers which threaten the British Empire are, it may be urged, different, both in degree and in kind, from those which at last overwhelmed Rome. But the moral of Rome's fall is applicable at all times and in all circumstances. In the last resort it is on the willingness and the ability of the individual citizen to defend his own and his country's interests that the fate of Empires and of Kingdoms alike depends. No juggling with the terms of service of the professional soldier, no alterations in the details of

foreign garrisons, no building up of Expeditionary Forces will serve for ever to keep this fundamental fact concealed, ignored though it may be for centuries.

In view of the present unsatisfactory condition of the citizen forces of the Empire, their development on scientific lines can no longer be postponed. They have been raised, and they exist without plan and without principle. Only recently, for instance, when the General Staff came to review carefully our requirements and our resources for coast defence in these Islands, they found that a mass of Garrison Artillery, both Militia and Volunteer, existed for no conceivable purpose whatever. No war duties ever had been, or could be, assigned to it. Moreover, instances occurred of Garrison Artillery units in Scotland and the North of England being allotted to, and being periodically taken at great expense to train for a few days at defences on the South Coast, this arrangement being due merely to the fact that Garrison Artillery existed in abundance in the North, while in the South other forms of military service had proved to be more attractive.

On the other hand, military experts are agreed that a primary condition of efficiency for a citizen gunner intended for coast defence is, that he should live near the gun he is to man in war. Such a man is, in these circumstances, likely to possess that thorough knowledge of local land marks, tides and channels, which is of the greatest value, especially in night operations; and further, he can constantly, even if his Saturday afternoons only are available, attend for training at his war station. Many similar examples can be adduced of citizen forces either existing for no declared purpose at all, or being employed under conditions which preclude their ever rendering themselves really efficient. As far as field troops are concerned, the want of any real war organisation among the existing Auxiliary Forces of the United Kingdom is so notorious that a detailed enquiry into deficiencies under this head would be altogether superfluous. Nor would any useful purpose be served at this stage by taking stock of the citizen forces which exist in the other self-governing portions of the Empire, and of their fitness for war.

As with the Regular Army, so, too, with the citizen forces of the Empire generally, a preliminary measure must be a thorough survey by the General Staff of the situation as it exists, with a view to a comprehensive scheme being formulated, on which the various administrative bodies can in future base their plans.

As far as Great Britain only is concerned, it is hoped ultimately to form 14 Territorial Divisions and 14 Cavalry Brigades, each complete in itself, and as nearly as possible upon the same pattern as the Divisions and the Cavalry Brigades of the Expeditionary Force. But it is obviously insufficient to prescribe merely that one, or in some cases two, Divisions should be formed in each of the Grouped Regimental Districts, and that coast defence troops should live near their war stations. The new County Associations will want to know exactly what troops they are expected to provide, what the peace and the war establishments of units are to be, how units are to be mobilised, and generally on what terms the Territorial Force is to be administered. All these and like matters are now being worked out in considerable detail in the War Office, and as soon as the Associations are formed no unnecessary delay will, it is hoped, occur owing to essential information not being forthcoming.

The work of the Associations will also be much facilitated if they can, at an early stage, negotiate with and obtain the advice of those officers who are to be charged with the command and training of the new Force. As a provisional arrangement, commanders and staff officers will accordingly be appointed at an early date for the new Divisions, and General Officers Commanding-in-Chief should shortly be in a position to instruct these officers as to the nature of their duties.

The main principles which will be kept in view in training the Territorial Force, have been already explained at considerable length in a Paper presented to Parliament during the recent Session (Cd. 3515). The central idea is eventually to produce a self-reliant body of officers and non-commissioned officers fit to instruct their subordinates in peace, and after a certain period of embodied service on mobilisation, to act as leaders in war. With this object in view, a network of training schools and instructional centres will be organised throughout the country, the training units mentioned already in connection with the Special Contingent being utilised largely for these purposes.

Time alone will show whether a citizen force raised and trained on the lines indicated can, owing to the exceptional difficulties which an enemy would experience in attacking these islands, ever be made an efficient instrument for home defence. In any case, what may suffice here, may be wholly insufficient in other portions of the Empire less favourably situated. As was pointed out in Part I. of this Paper, the question of the sufficiency and the efficiency of its home defence forces, is one for which each portion of the Empire and each generation must find an answer on its own account.. Generalisation is here impossible. Time also, and experience, can only prove whether a citizen force organised and administered, as it is proposed to organise and administer the Territorial Force, is likely in war to provide those powers of expansion to which the Elgin Commission alluded.

The Government's plan of entrusting to local bodies the raising and the administration of the new Force, will have the effect of defining clearly the limits of the responsibility which will in future rest with the central military administration. Under the new conditions the Army Council will have fulfilled its duty to the nation, if it makes provision for meeting, on the lines indicated, the 2nd, 3rd, and 4th of the essential military requirements to which allusion has been made. To some small extent, it may also be expected to provide, out of the Special Contingent, for the subsequent expansion of the Expeditionary Force, as opposed to its maintenance, but powers of expansion from this source will necessarily be very circumscribed. The Army Council will also be responsible in all matters pertaining to the command of such forces as the Associations are able to place at its disposal.. Beyond these limits its responsibility cannot in future be held to extend.

Speaking broadly, responsibility for the fulfilment of the 1st and 5th of our military requirements, namely, the provision of forces for home defence and for Imperial defence beyond a limit pre-arranged in peace time, will, so far as this country only is concerned, rest directly and unconditionally on the shoulders of the Nation.

It is as a means of enabling the Nation to undertake this obligation that the County Associations will be formed, and to enable the

County Associations to voice their needs, a central Advisory Board will be constituted at the War Office, which will be represented on the Army Council in the person of the Secretary of State himself.

The situation is thus clearly defined. If, in future, the whole problem of Imperial Defence, on its purely military side, is to be treated more methodically and more scientifically than in the past, the inhabitants of this Empire must learn to look to the General Staff to tell them fearlessly what the dangers are which they may be called on to confront, and what forces, both in numbers and in kind, are essential for safety. This done, the provision of the forces will rest with various administrative bodies throughout the Empire, and nothing is more desirable than that each of these bodies should realise to the full its responsibilities, for on a clear definition of responsibility successful administration mainly depends. The one outstanding lesson of the South African War is, that the professional forces of the Crown can bear only a limited portion of the burden of Imperial Defence. The rest lies with the citizen forces of the Empire.

EDUCATION IN RELATION TO THE ARMY.

By Sir GEORGE ARTHUR, Bart., late 2nd Life Guards.

Wednesday, 20th February, 1907.

Major-General Hon. Sir F. W. STOPFORD, K.C.M.G., C.B. (Commanding the London District), in the Chair.

UNDER the spell of certain events still recent it might require some courage even to breathe the much-used and abused word, Education—standing, as it does, for so much that is repugnant to most of us in the shape of barren discussions and blazing controversies.

The subject of education is with us, however; we cannot escape it if we would, and in none of its specific phases does it more insistently demand all the attention we can give it than in that which concerns the military forces of the Crown. Here, at least, it is happily possible to lift the question out of the heated atmosphere of partisan politics into the rarer air of pure patriotism.

I must claim a full measure of indulgence—indeed, I feel that an apology is due to my audience—for venturing, with but little past experience, and no present personal knowledge of its inner working or complex machinery, even to touch on so difficult a subject as military education.

The only possible value that can attach to a paper such as this, is that it should exhibit the standing-point of a pure outsider, who, far from regarding with cynical indifference or too apt hostility the steps taken by those in authority to benefit the Army, marks with eager satisfaction the advent of any measure calculated to promote its progress in education and its proficiency in military science.

By what system of mental training and discipline is it possible best to deal with the mass of available raw material in order to mould and compact it into an efficient and effective human machine?—that is the question, always of supreme importance, but surely now fraught with an added gravity in view of the recent development of arms of precision, and of a corresponding modification of tactics in the direction of the enhanced initiative of individuals. If there is one lesson which German military authority has impressed upon us, which was amply confirmed by our own South African experience, and which has since been emphasised by the brilliant example of our Japanese allies, it is this: that, in a greater degree than ever before, it is indispensable that in war both the officers and men of the Army should be qualified to act every man on his own responsibility, if and when the occasion should arise. In a letter, which I have just had the honour of receiving from Field-Marshal Lord Wolseley, he writes: "Remember that the more education permeates down to the private soldier the better." This new need for the exercise of the individual judgment must demand a mental alertness, a capacity for thinking, which can only be acquired by special and careful training. In a word, the higher education of the Army is a problem that urgently and even clamorously presses for solution.

A distinguished general officer, now serving in the East, on hearing that this paper was in preparation, immediately wrote to me to suggest that its title should be altered to, "The Want of Education in the Army." Yet even this genially cynical critic felt bound to acknowledge the considerable and already large successful efforts that are being made to fill up much that was lacking in the Army's system of intellectual training.

Though there are two interests involved in the question of the better education of the Army—the training of the officer and that of the soldier—still, the question itself is really all one, and it is possible to suggest that the two divisions of the subject have never yet been sufficiently considered together as integral parts of one great whole. The connection between them receives, as it were, an additional link from the curious coincidence that the Act of 1870, which gave so vast an impetus to the education of the masses, was nearly synchronous with Lord Cardwell's abolition of purchase, which raised at a bound the intellectual standard required from Army officers.

Will you take just a hasty retrospective glance at education, general and military? For at least a hundred years after the Restoration, general education among the upper classes was scanty, though domestic discipline was severe. Of course, there were exceptions, and in certain families where learning was esteemed even little children were put through a drastic course. Evelyn's infant son could read when he was two-and-a-half, and before he was five had "learned out Puerilis," and made progress in "Comenius' Janua." It is not surprising that this infant phenomenon died before he was six!

Locke writes of a friend's child who at five "could perform the plainer problems of the globes," at six imbibed Latin, and three years later "understood geography and chronology and the Copernican system of our Vortex," and all "without having one blow for his book." The same pitiable young prodigy had seen dogs dissected, and "could give some little account of the grand traces of anatomy."

Contemporary opinion as to the efficiency of public school training varied considerably. The Lord Cork of that day, who sent his son to Eton at the age of eight, opined that "breeding up of great men's children at home tempts them to nicety, pride, and idleness, and contributes much more to give them a good opinion of themselves than to deserve it."

Locke, on the other hand, wrote from Westminster: "How any one's being put into a mixed herd of boys, and there learning to wrangle at trap, or to rook at spanfarthing, fits him for conversation or business, I do not see."

It would not be strictly true to say that even three centuries ago there was no sort of instruction to hand for military men. But all of it that we can trace was of the slightest, and the means of assimilating it were difficult of attainment.

The earliest known military treatise in English was the work, translated from a foreign source, of one Peter Whitehorn, and was published in 1560 under the title of, "The Ordering of Souldiers in Battelray." A quarter-of-a-century later appeared the first treatise written by an Englishman, a certain Mr. William Garrard. This work, which was published posthumously, sharply criticises the existing military system, and is especially severe on the ill habit of carrying

powder loose in the pocket instead of in flasks or metal cartridges, after the manner of other nations. It presents a pleasing picture of ideal parade movements:—"Let the pikeman march with a good grace, holding up his head gallantly, his face full of gravity and state, and such as is fit for his person."

Of about contemporary date was a much smaller work by Barnaby Rich, who boldly denounced the current practice of recruiting the Army from the gaols. Somewhat later, in 1587, appeared an English translation of La Noue's famous work, which dwelt forcibly on the stern discipline kept in the Huguenot regiments, in which cards, dice, swearing, and women were all tabu.

During the early part of the eighteenth century can be traced a steady stream of military books, some of rather a nebulous character, I find, for instance, such advertisements as:—

"A letter to a young gentleman, who by the mediation of great friends, had obtained the grant of a considerable command in the English Army against the prevailing Power of France.

"A letter to the same young gentleman, after he had received his Commission, wherein is chiefly discoursed the moral part of military discipline."

Somewhat later there appeared Ward's "Animadversions of War," and "The Geography and History of Tournay. First written in French, for the service of Prince Eugène of Savoy, and sent enclosed in a letter to him. Now done a second time in English for the satisfaction of our British Gentlemen and Officers by John Mack-Gregory, LL.D., Professor of Geography and History."

Colonel Humphrey Bland was, of course, a great contemporary authority. His work was followed by a small volume, entitled "Cautions and advices to officers of the Army, particularly subalterns, very proper to be read by gentlemen of that rank." It contains some admirable hints on military conduct—for instance, that "a subaltern, on joining his regiment, should wait on the commanding officer, and not send for him, as some young officers have done." Another military treatise, entitled "The Cadet," and dedicated to the Duke of Cumberland, is described as "very useful, not only for the officers of His Majesty's land forces and Marines, but also for those gentlemen who have already, or intend taking, commissions in the Militia." Of course, Caesar's "Commentaries" were familiar, and such classics as Aelian, Vegecias, Polyorchetes, and Machiavelli were occasionally studied by a very select few.

During the whole century after the first establishment, in 1660, of a standing Army, the rank and file—with, of course, the exception of the troops of Horse Guards—were absolutely illiterate; while officers—without, I fear, any such exception—were professionally unskilled. Scotsmen, who had benefited by the admirable provision made for education in Scotland ever since the days of John Knox, used to enlist in English regiments, because at no time did these contain even a sufficient number of literate Southrons to supply the needed proportion of non-commissioned officers.

It is a curious illustration of the persistency of national characteristics that the officer commanding a battalion of the Guards' Brigade wrote to me only a few days ago:—"I find the Scotsmen in my battalion much keener on attending school than the others; further, they are already better educated when they join." Of the Irishmen who enlisted for the Seven Years' War, it

is recorded that they were even more illiterate than the English. Here, again, history curiously repeats itself.

There is no evidence that at any period since the Restoration the British soldier—if allowance be made for his normal derivation, his subjection to drastic discipline, and the systematic repression of his mental expansion—was specially deficient in natural understanding. For instance, he was quite sharp enough to recognise in the cold and calculating William of Orange a better man for the job than his father-in-law, and—apart from any natural disappointment at being deprived of the prospective loot of Paris—he was fully alive to the fact that the withdrawal of the British from the allied troops in 1712 made for the national discredit, and had been inspired largely by jealousy of the Duke of Marlborough—the one General of these centuries in whom was united the highest excellence of a strategist with a unique capacity for endearing himself to the rank and file, and for eliciting from them a maximum of effort with a minimum of tension.

It is not that in the British soldier there was ever any lack of intelligence, but rather that no development of his mental faculties was ever attempted, or even so much as tolerated by his superiors. A curious instance is worth citing. In 1755, on one occasion during Bradock's operations at the Monongahela, the English troops, finding themselves trapped in a wood, were plunging wildly about in search of shelter from a hail of bullets, and were frenzied by the war whoops of the Indian enemy whom they could not see, and whose fire they were unable to return. Meanwhile the Virginians who accompanied them, and who knew something of the game, kept their presence of mind, and, in extended order, taking shelter behind the trees, began to return the Indian fire in Indian fashion. A few of the more intelligent of our men, having witnessed the effectiveness of these tactics, began timidly, yet not unsuccessfully, to adopt them. At this juncture the General himself rode up, and declaring with a volley of oaths that he would have no more of what he denounced as "these un-English tricks"—for no other reason than that they were neither to be found in the drill-book nor had entered into his personal experience in Flanders—angrily and with brandished sword drove both Virginians and British back to their fellows and to certain death.

A very different spirit was displayed in the same region three years later by Lord Howe, who, leading a reaction against the stiff unpractical school, formed and equipped the first light infantry regiment.

The end of the 18th century marks a departure which largely affected the future of the British Army in general and of the British officer in particular. A well-merited tribute has lately been paid to the work of the Duke of York as Commander-in-Chief, after his return from Flanders, where his efforts in the field—whether by reason of natural incapacity, or through adverse circumstances—were certainly not a success. The Duke's experiences of practical soldiering, however, were not valueless. His understanding of strategy and of tactics may have been defective, but his knowledge of human nature—in particular of contemporary Downing Street human nature—and his own bitter recollection of what he had suffered at the hands of incompetent superiors at home, had impressed on him some useful lessons. The Duke of York, as a commander in the field, stands midway between the days when a Commander-in-Chief like Marlborough could be politically supreme, and the present time, when—at least

in civilised warfare—the civilian officials at home and the Commander-in-Chief in the field are in close touch with each other. Throughout the Flanders campaign communication between the Duke and the home authorities was sufficiently easy to enable them to thwart and hamper him at every turn, yet not sufficiently rapid to enable him to expostulate with so self-sufficient, yet withal so incompetent, a superior as Dundas.

The Duke of York had the wit to perceive that the disabilities under which he himself laboured were reproduced through every grade of the Army. He had himself taken pains to be acquainted with his profession. At 17 he was gazetted Lieut.-Colonel, and at 18 was sent to Hanover to learn French and German. Here he also studied, not only tactics, but the minutiæ of regimental discipline, and further increased his expert military knowledge by attending Austrian and Prussian manœuvres. He was quick to appreciate, too, those sterling characteristics of the British officer which, tested under every condition and in every corner of the world, have again and again rung with sovereign sound. He was forward to perceive that these high qualities were too often obscured—sometimes abused—because undeveloped by any sort of educational training. From the moment he assumed office the new Commander-in-Chief set to work at his project for the instruction of officers in their profession.

The first part of the Duke's scheme took shape in 1799 in the opening of a school at High Wycombe by M. de Jarry, a former professor at the Military School of Berlin. Thirty pupils nominated by the Commander-in-Chief and armed with a certain knowledge of their profession, as also of French and geometry, were the first to be admitted. The school thus started is now the Staff College.

A year later a further step of equal importance was taken, and for the first time education was recognised to be a possible rival to hard cash and high birth as a key for entrance into the Army. A Board of Generals, convened by the Duke, decided to hire a house at Great Marlow, and to admit there 100 gentlemen cadets, who were divided into three classes. Of these, thirty, being sons of officers who had died on active service, were taken in free of all charge; twenty more, whose fathers were still on the active list, paid £40 a year; and the other fifty, being sons of civilians, were charged the full annual fee of £90. The students were allowed to enter at thirteen, to remain till 17, and then, after passing a satisfactory examination, to receive commissions. This institution is now represented by Sandhurst.

Side by side with his excellent work on behalf of the officer are to be noted the Duke's continuous efforts to raise the status and improve the conditions of the private soldier. One of these may serve as a specimen. He arranged a system of penny postage in Flanders for the benefit of all men below the rank of non-commissioned officer—a measure which may be regarded as one of the earliest of those which recognised the possibility of education among the rank and file.

Had he however, achieved nothing else than to create the two great centres for the military instruction of its officers, the Army would still have owed a deep debt of gratitude to the memory of the Duke—a memory to which tardy and scanty justice is now at last being done. Whatever the personal failings of his public and private life, the fact remains that he was the pioneer of that which, long after his day, was to become the great movement, now plainly discernible, for

rendering our officers, already conspicuous for courage and energy, the peers in culture and intelligence of the members of other distinguished professions.

The fruition of this idea was, however, still far distant. For at least another half-century or more the British officer was commonly regarded as a person more remarkable for physical courage and the other attributes of "a good fellow" than for thoughtfulness and mental capability. Even the frightful exposure of our military shortcomings by the Crimean War availed little to raise the intellectual standard of the typical officer—too often the son of the family who, having most inches and fewest brains, was still looked upon by his father as suitable for the Army, and perhaps for nothing else.

During the first three-quarters of the 19th century the progress made in specifically military education was small. It is very remarkable, in view of the Duke of Wellington's frequent and bitter complaints of the ignorance of the average British officer, that he himself appears, throughout his whole unrivalled career, military and political, to have set but little store by special professional education. His biographer believes him to have held strongly the opinion of Guyau, that "outside the sum total of the narrow and positive science indispensable in practical life, all restricted scientific instruction is sterile." The Duke no doubt remembered that the instruction he had all unwillingly received in early life had little to do in conferring on him the two supreme positions he ultimately occupied.

He stated explicitly—as may be seen by a reference to the Salisbury MSS.—that the best education for the military and all other professions is the common education of the country—an observation which contains the germ of what is now recognised as an important truth. But it is, to say the least, not obvious that he had any fixed notion of appealing to the reasoning faculties of soldiers. There seems some warrant for suggesting that a man who repeatedly and officially declared the lash to be indispensable to the maintenance of discipline could not have realised the higher possibilities to be evoked by an appeal to the intelligence and the thinking powers of the men.

The feeling that education is injurious to discipline dies hard. A well-known and rather old-fashioned officer remarked to me only the other day: "I should much prefer to lead into action a company of men who can't write their own names."

Lord Hardinge's tenure of office was very brief. But the merit of having promoted musketry practice and collective training must stand to his lasting credit, and there is not wanting evidence to show that, had his life been spared a little longer, he would have been inclined to take a long step in the direction happily followed in recent years.

Meanwhile, the development of the general education of the country was very great. The establishment by the Church of England in 1811 of the National School system brought for the first time within the reach of almost every child in the land the possibility of receiving a sound elementary education. It was many years before the Government rendered this work any assistance whatever, and a much longer period elapsed before the State became conscious of its responsibility for the intellectual and moral training of the children of the masses. A new era opened in 1870 with the passing of Mr. Forster's Education Act, which, as we have already noticed, nearly coincided in time with the great impetus given to the

intellectual training of our officers by the abolition of purchase by Lord Cardwell, of whom Lord Wolseley, in the letter already quoted, observes: "He was a great man, and I am sure you will do him justice as the first of our War Ministers to grasp the extent to which our Army had been allowed to run to seed, when smartness of appearance on parade was mistaken for military efficiency."

Within a few years a series of important military expeditions, organised and carried on in various parts of the world, most opportunely supplemented the excellent results of the Cardwell reforms. The functions of the British Army are fundamentally differentiated from those of all other armies by the fact that a British force is liable to be called upon to operate in any latitude and under every possible variety of conditions, geographical, climatic, or political.

Other European nations have been accustomed for centuries to carry out military operations on traditional fields of battle, as familiar to their expert strategists as a chessboard is to a chess-player.

Our own experiences are entirely different. A whole series of little wars, waged in various quarters of the globe, was begun, fortunately for us, under the felicitous auspices of Lord Wolseley, who, making the most of his opportunities, was one of the first modern commanders to appreciate, and to inculcate on his subordinates, the value of individual initiative. Lord Wolseley especially set himself to put an end to what one of his staff described to me in the Sudan as the curse of the British Army, namely, the officer who conceives that his utmost duty has been fulfilled when he has "reported" a difficulty to his "next senior." A new spirit was abroad. The altered conception of soldiering was active in more than one direction, and took shape in numerous beneficent reforms, all tending to show the soldier, whether officer or private, that he has other work to do than merely to carry out parade movements. The current, which at that time set in, has ever since been steadily gathering in volume and intensity.

Doubtless, the earliest attempts to stimulate individual intelligence were doomed to meet with some curious disappointments. In India, in the early "eighties," the colonel of a well-known regiment, intent on developing the thinking powers of his men, once arranged some skeleton military evolutions, for which he sent out various units with instructions that certain selected men were to observe and report upon what was done. Meanwhile, he himself, in plain clothes, and accompanied by his amiable consort, took up a point of vantage on the local racecourse, in order to satisfy himself as to the way in which the day's work was performed. When, subsequently, the reports of the men's observations came to be handed in, one ran as follows:—"I saw the Colonel, without his spurs on, talking to a girl close to the grand stand."

An unpleasant product of the educational system initiated in 1870 was a certain type of pert board-school child, who did not always shed his objectionable characteristics as he grew in years. A soldier of that class, asked to report on the events of the day in barracks, made the entry:—"I saw my officer going about his military duties in plain clothes and smoking a cigarette."

Another anecdote serves to show that individual intelligence sometimes takes a deal of "evoking." A corporal and two men were sent out to survey the country and report the result. As none of the three came back, a search party went to look for them and found

the corporal comfortably seated in a tree. He explained pleasantly that from that exalted position he was "taking the initiative," and his idea evidently was that he ought to go on taking it in that manner for the rest of the day.

This slight retrospect has brought us to the period at which the great and complex problem of the relation of education to the Army began to emerge in definite form. That problem still faces us, and it is a necessary preliminary to any discussion of it to acquire some grasp of the existing condition of military education in all ranks at the present time. So far as the training of officers is concerned, the subject was dealt with in some of its aspects, rather less than two years ago, before this Institution, by Colonel Murray, in a Paper which it would be an impertinence for me to praise, and with which it may be assumed that most of you are already acquainted. No apology will, I think, be needed if, on the present occasion, some of the leading principles laid down by my predecessor should happen to be emphasised.

The present state of education in the Army may be regarded from two wholly different points of view, each of which I propose to illustrate in turn from two remarkable expressions of opinion which have lately reached me from sources of undoubted authority.

The two standing-points are, as I have said, entirely distinct. From one of them—which is that of the rather cynical General Officer already alluded to—the subject is regarded with respect to the duty of the State towards the training of its soldiers; from the other—which is represented by the unique experience of a well-known cavalry officer—the matter is viewed in relation to the actual efforts being made at the present time, largely by the action of soldiers themselves, to make good the deficiency.

The conclusion will be seen, I think, to be two-fold:—First, that, owing to the strange negligence of the State, the condition of military training is enormously below the standard which it should reach; but, secondly, that, owing to enlightened efforts originating in the Army itself, much is being done to rectify shortcomings in military education.

Let me proceed to illustrate what I have called the first, or pessimistic stand-point:—

The Army Estimates for 1906-7 provide for a total expenditure on the military forces of the Crown of £29,796,000, of which huge sum no more than £132,000—or less than one-half per cent.—is devoted to military education. The particulars are as follows:—

R.M.A., Woolwich	£37,400	
R.M.C., Sandhurst	60,200	
Staff College	9,360	
Regimental and Garrison Schools ...	61,700	
Duke of York's School	13,700	
Hibernian School	11,500	
School of Music	2,940	
Examination Expenses	5,900	
Rewards for linguistic proficiency ...	2,400	
		£205,100
Deduct appropriations in aid		73,100
		£132,000

The marvel is that so much should be done for so little money. Those excellent institutions, the Duke of York's and the Hibernian Military Schools, educate the sons of soldiers, and turn out a very large percentage of Army schoolmasters, while a very large proportion of the boys enter the Army and become non-commissioned officers. The expenditure on the Kneller Hall School of Music, on examinations, and on rewards for proficiency in foreign languages, though officially classified under the category of "Educational Establishments," can hardly be accounted as outlay on military education.

Next as to the kind of training supplied to the officers. The R.M.A., Woolwich, provides officers for the Royal Engineers and the Royal Artillery. The course of instruction, which extends over two years, is undoubtedly excellent. As a consequence, the standard of education attained in these branches is much higher than in the rest of the Army. At the R.M.C., Sandhurst, the course is supposed to last for two years. Owing, however, to a continual and serious shortage of officers, it has never, in fact, exceeded one year. In times past cadets have been known to receive their commissions after a course of six months only. Nor, up to a recent period, was the course itself, in the judgment of some of the best authorities, entirely above criticism. Of late, however—and I am speaking of the last few months—several very real improvements have been effected.

Once an officer has obtained his commission, nothing more is done for him educationally, even the perhaps doubtful assistance of garrison classes having now been abolished. He is taken as educated, and has merely to pass his examinations for promotion, which are not educational tests. If an officer wishes to enter the Staff College—and it is not possible for more than a limited number to do so—he must pursue his preparatory studies privately in order to pass the severe entrance examination.

So with the lower ranks. Once a non-commissioned officer or a private soldier has obtained the school certificate he may require, nothing more is done for him in the way of education.

It is strictly germane to the subject in hand to consider whence the material for our officers is derived. The sources of supply are four:—

1. From public and private schools;
2. From the Militia;
3. From the Universities;
4. By direct Commission.

The majority of young gentlemen who enter the Army do so between the ages of 18 and 21, though the University men are a little older. From 15 to 16 most boys are more occupied with play than with work. It is not till after the age of 18, and when they specialise or go to a University, that they seriously tackle the task of book-learning. You may take it that before 18 their acquisition of learning is in a state that may be termed one of suspended animation. As a result, the youth who wishes to enter the Army works merely to pass the entrance "exam.," and when he has passed it he enters Sandhurst equipped with an amount of military knowledge which, at the best, is little more than the merest smattering. Such being the facts, the conclusion is indisputable, that the kind of education imparted at Sandhurst has been, until

lately, planned entirely on wrong lines, in view of the sort of material which has there to be dealt with. And here it may be mentioned incidentally that the standard of officers' education—never too high—was enormously lowered by the grant of commissions after the South African war to some 2,000 practically illiterate young gentlemen.

Commanding officers are generally of opinion that the University candidates exhibit a much higher standard of general education than do the others.

It is the mature view of some of the highest authorities that no attempt to find a remedy for our present shortcomings can succeed unless it include the adoption of the following measures:—

1. To make a more generous provision in money for the education, as distinct from the military training, of both officers and men.
2. To re-organise Sandhurst, a two years' course being insisted upon as a minimum; the present battalion system to be abolished; the cadets to be taught theory and science, the rest of their instruction being left to be learnt in the unit.
3. To leave Woolwich as it is, unless the State will find the money to found an institution more on the lines of the American West Point College.
4. To insist on a higher standard of general education before entry into Sandhurst, and with a like object to lean more on the Universities.
5. To make it obligatory on all officers, before obtaining their commission, to pass through either Woolwich or Sandhurst, or to have enjoyed a *bonâ fide* University career.

These educational reforms relate to the officers. For the men there are two which press for adoption:—

1. To organise well-found schools for non-commissioned officers in all military centres.
2. To abolish the present regimental garrison and infant schools, and to use the money thus saved on purely military education.

For all, officers and men alike, the one thing needful is to rely more on common-sense and a wise expenditure of money, and less on the Imperial Chinese system of examinations.

So much for what I have termed the pessimistic estimate of the State's manner of dealing with the education of the Army. Let me place side by side with it the optimistic view of what the Army is doing for itself to retrieve its position.

Writing on the educational standard of the soldier, the experienced cavalry officer, to whom I have referred as an undoubted authority, says:—

1st, as to the Recruit. The educational standard of the recruit is very much higher than it was some fifteen years ago.

The recruit obtained in the summer is a far higher class of man than the recruit obtained in the winter, and therefore has a far higher standard of learning. The percentage of well-educated men—in some cases they are almost highly educated—is far greater now than ever it was before.

2nd, as to the Trained Soldier. Starting with a recruit already more educated than was formerly the case, and having a very much better mode of education in the Army, one finds the trained soldiers of the present day a long way superior in point of educational standard to those of fifteen years ago. The tasks now set to non-commissioned officers and men, and the questions asked by General Officers inspecting, are such that, years ago, one would not have thought of asking even an officer.

The men are not at the present time so "bear-led" as they used to be. By that I mean that, if anything has to be done, it is not necessary to send a non-commissioned officer with the men to see it done. On manœuvres men are sent either singly, or two or three together, to ride 40 or 50 miles and shift for themselves on the road. The results have been excellent, and the broadening of the men's minds and the making them shift for themselves have developed their intellect, so that one can safely say that the soldier of 5 or 6 years' service of to-day is not only highly educated but highly trained, and he cannot possibly be highly trained if he be not first educated.

The following are the several numbers of 1st, 2nd, and 3rd class certificates held by this regiment—a list which speaks for itself, the regiment having some 250 recruits of under a year's service:—

First Regiment.

Holders of 1st class certificates	24
,, of 2nd class certificates	166
,, of 3rd class certificates	255
Total	445

3rd, as to the Officers. A very much higher standard is now held necessary. The needs of the day demand, and the authorities have insisted, that the individual officer should attain a certain standard of military education. He has to lecture to his men, during the training season, practically on four days a week. He has to set them schemes which he has to correct himself, and he has during the winter season either to write an essay on some military subject or military topic of the day, or to compose a series of lectures which in the future he will have to deliver to his men. To reap the necessary results of this labour, every officer must spend a considerable portion of his time reading for his profession.

To obtain higher employment as a Staff Officer, a Staff College certificate is now necessary, which the authorities appear to think essential. That is all very well, provided that the candidate has sufficient means, either to obtain the assistance of a crammer, or to enable him to travel abroad to learn foreign languages. A poor man, that is a man who has only from £100 to £200 a year of his own, is practically debarred from obtaining a Staff College certificate, as the State provides no courses of instructon which an officer can attend in order to acquire the knowledge necessary to pass this examination.

There is one part of an officer's education which is absolutely neglected, and yet which is, in my humble opinion, of the most vital importance, and that is a business training. Officers are appointed to all sorts and kinds of administrative posts, yet there are probably not 5 per cent. of those at present serving that know as much about book-keeping and checking a ledger as the junior office-boy in a stockbroker's office. I am informed that a course of business

instructions for officers is to be started in the London School of Economics. The length of the course is to be ten weeks. What can a man learn in ten weeks? I am sure the State would be saved a very large amount of money were its administrative offices run on exactly the same lines as a bank.

It may be objected to this testimony that probably the officer who gives it happens to have been exceedingly lucky in his regiment. But there is abundant evidence to show that his estimate of the present educational capabilities of his men finds a striking parallel elsewhere. The next two cavalry regiments, as to which I made enquiries, sent me the following returns:—

Second Regiment.

		Quoted above.
Holders of 1st class certificates ...	25	24
,, of 2nd class certificates ...	163	166
,, of 3rd class certificates ...	150	255
Nil (whether failures or unexamined)	95	
Total	433	445

Third Regiment.

Holders of 1st class certificates	20
,, of 2nd class certificates	160
,, of 3rd class certificates	212
Below the standard	40
Total	432

My correspondent's estimate of the present situation being so strikingly confirmed, we may with the greater confidence accept, at any rate provisionally, his anticipation of a great development of educational capacity among the soldiers of the future.

With the foregoing information, derived from three cavalry regiments, it may be of interest to compare the following return relating to the 2nd Battalion of the Scots Guards, with which its C.O., Colonel Pulteney, has most kindly furnished me:—

Number of certificates now in possession of men serving in the battalion on 30th January, 1907:—

1st class certificates	20
1st class, one group	13
2nd class certificates	182
3rd class certificates	324
	539

Strength of battalion, non-commissioned officers and privates, on this date, 812.

Number of men of the 2nd Battalion Scots Guards attending School at the Tower (including their detachments at Windsor and Caterham):—

Working for 1st class certificates	22
,, ,, 2nd class certificates	55
,, ,, 3rd class certificates	136
	213

The following will give an idea of the educational attainments of recruits joining the 2nd Scots Guards. The attainments of the last hundred recruits are as follows:—

Class A	= to Standard 6	13
,, B	= to Standard 4	28
,, C	= No certificate	40
,, D	= Illiterate	19
	Total	100

For a recruit to gain a Third Class certificate without difficulty he should have passed the Fifth Standard. To obtain a Second Class certificate he must attend an Army School to learn the pay and mess books; in other respects he would obtain one if he had passed the Sixth Standard.

In an accompanying letter, Colonel Pulteney writes: "I used to think that the test for the First Class certificate was too hard; but I find nowadays that so much is required of a non-commissioned officer that it really is not too much. Perhaps it would be advisable to start technical training in the Army Schools, such as shorthand, typewriting, and bookkeeping. It would mean an addition to the present staff in the school, but it would mean money well spent. Of course, it would have to be an extra subject, but a man obtaining a certificate would have a better chance in civil life of obtaining employment. Proficiency pay and service pay have both been a great inducement to soldiers to attend school."

It is obvious that there are three channels through which the rank and file of the Army may be rendered more literate:—1. The first is the attraction to the ranks of a class of recruit drawn from a higher social stratum. The measures necessary for attaining this result have often been pointed out, and have long been discussed. All authorities are agreed that the principal thing to aim at is a prospect for the soldier of good employment after he quits the King's service and returns to civil life.

In a non-military country, such as ours, and so long as enforced military service is set aside, it has to be frankly recognised that in the classes whence the best-educated recruits could be drawn the Army is regarded by parents and guardians as an unprofitable, unbusiness-like, improvident, and not altogether reputable field of employment. It is felt that, at least for some years, the soldier can do little or nothing to help his family, either in time or in money. On this ground alone a promising lad is often kept back from enlistment—all the more, the more promising he is. Thus, I think at the Gordon Boys' Home, and I know at some other schools where boys are educated with a view to the Army, it is customary to require, as a preliminary condition to a candidate's being received into the institution, that his parent or guardian shall formally undertake to raise no subsequent objection to his entry on a military career. Undoubtedly the military wage compares unfavourably with the wage obtainable in the market for skilled labour of the higher grades, while the status of the soldier is, in various respects, subject to disabilities and disadvantages. He is not accorded the same rights and privileges as his civilian neighbour and social equal. His treatment by innkeepers, and at places of public resort and amusement, is —to put it mildly—differential. Again. when the civilian's day's

work is over, he is free to employ his time as he likes. The soldier's time is theoretically never his own; he is bound by restrictions like a domestic servant, yet deprived of the domestic servant's privilege of giving you a month's warning.

I shall not follow farther this line of thought. It needs no elaborate argument to show that, with conscription barred, the conditions of service must be improved if voluntary recruits of good education are to be attracted. Mere increase of pay is not enough. Employment in the Army must be made a serious, a creditable, and especially a provident, trade, in which a man will find himself trained and equipped for civil life, after his time of service shall have expired. This prospect secured, the parent or guardian will become our best recruiting sergeant for the supply of material of a superior character educationally. Of the measures now being adopted to attain this end, I propose to say one word presently.

The second instrument, by means of which it should be possible to raise the standard of mental culture amongst soldiers, is to raise it amongst the community at large. After all, the Army is only a sub-division of the nation itself, and as the state of the nation is in respect to efficient education, so will that of the Army be. The benefit resulting from the Education Act of 1870, and from the subsequent legislation by which it has been supplemented, has been felt in the Army as in every other department of the national life. As the former illiteracy of the masses had given us an illiterate Army, so the better education of the grade from which the poorest type of recruit is drawn has, for the last three or four decades, tended to raise ever more and more the standard of mental attainment among the soldiers.

Here again I need not labour the obvious point, important as it is, that the Army has a direct and special interest in the efficiency of national education; but I should like to emphasise very specially the absolute necessity, from the Army's point of view, of some measures of compulsion being brought to bear on the youth of the poorer classes to attend evening continuation schools on a certain number of evenings—say two—per week. It is little less than a crying scandal, that with our enormous national expenditure on what is so absurdly mis-named "free" education—as though the cost of it fell on nobody at all—and after years of unwearying pains taken by able and diligent teachers to instruct the young, the fruit of all this seed-sowing should be largely thrown away by our stupid neglect to insist on the further cultivation of the plant.

A boy who leaves school at 13 or 14 has only just begun to reap permanent benefit from his schooling. That he should be permitted wantonly to forfeit a large part even of that scanty gain by non-attendance at the excellent and well-equipped continuation schools nowadays provided for him free of expense is an injury to himself and to the country, and is especially a source of mischief to the Army. An experienced schoolmaster tells me that a boy of 14, after passing the sixth standard, would, if he enlisted then and there, be able to take a third-class certificate without any further coaching at all. A two or three years' interval without mental exercise results in mental decay.

In default of securing already well-educated recruits, there remains, thirdly, the expedient of educating the soldiers after they have joined the Army. To cite Lord Wolseley once more:—"Other

matters, although they do seriously influence our men, are insignificant when compared with the mental education we should give them. Many a young man, condemned as being 'too stupid' to make a soldier, will, if judiciously educated after joining, make a good and reliable fighting man. It is for the badly educated—the young fellows who have never been taught to think in any logical fashion—that our rules must be framed, and the mode of educating their minds and of developing their thinking powers be determined upon. The subject is one of the greatest importance to our Army."

The efforts made in this direction, and originating with the Army itself, have met with encouraging success. That success cannot, indeed, be attributed, either to any benevolence on the part of the State, or to any specially sympathetic interest taken by the public at large in internal military matters. It is wholly due to the disinterested zeal of the regimental officers, to the conscientious painstaking of the schoolmasters, whose admirable and unobtrusive work, by the way, meets with scanty public recognition, as well as to the strenuous efforts at self-improvement to be observed among the men themselves.

The passing mention of the schoolmasters tempts me to add, with reference to that highly instructed and most efficient body of men, who, to keep abreast of modern requirements, are compelled to work at high pressure, that some of the restrictions, and, indeed, disabilities, under which they labour, might advantageously be removed.

A perusal of the Army School Regulations for 1906, and a study of some of the questions set for examination to the candidates for first, second, and third class certificates, will suffice, I think, to convince anybody that the school instruction now being given to soldier pupils is of very high quality.

The papers for first class certificates will in future show a marked and very practical improvement on those set heretofore. Instead of a rather useless dictation a simple form of composition will be substituted. The range of the geographical questions will be restricted to certain areas, and those areas, for the most part, such as closely touch British interests.

Most important of all, a definite period of history will have to be studied. The first period to be set is, I think, that from 1688 onwards. Hitherto the answers given can only have been the result of a very superficial knowledge of English history, and it is surely more important to be acquainted with the strategy of Wellington than with that of William the Conqueror, and of more practical value to know something of Lord Chatham as the first great Imperialist than to discuss the ethical points raised by the legend of King Alfred and the platterful of burnt buns. I would like also to suggest that a very valuable but hitherto wholly neglected method of interesting a soldier in general history is to teach him the historical records of his own regiment, of which he is generally quite ignorant. I am bound, however, to quote a brilliant exception which occurred the other day, when a cavalry sergeant was able to set right an error made by a military expert writing in a military magazine as to the part played by the Scots Greys at the battle of Malplaquet.

The standard of the examination has been so raised that it is impossible to get even a third class certificate without a certain amount of preliminary study. An education of a thorough character is now, therefore, open to almost every man in the Army—an education which

should go far to enhance his value hereafter as a citizen. Even if it were impossible to teach the soldier a definite trade or handicraft, it would at least be no small gain to have developed his mental faculties in such wise as to enable him to carve out his own future in civil life.

In reality, however, much more than this is being done for him. On the 18th of last December the War Office issued a paper of the instructions that have been given to the various military commands on the technical teaching to be given to soldiers to fit them for civil life. The idea is, of course, not novel. The teaching of trades was some time ago adopted in the French Army, in which, after their first six months' training, all recruits are encouraged to attend the technical instruction. In France, where the soldier's day is already fully occupied, the plan was beset at first with some difficulty. Human nature having its limitations, it was somewhat unreasonable to expect a young recruit, after many hours' strenuous work, to concentrate his attention on a lecture about agriculture, or to select for his distraction the comparative repose of a boiler factory. In France, however, the instruction is at any rate given gratuitously, whereas with us it is laid down, in a somewhat Pecksniffian paragraph, that "although the Government may perhaps make some contribution to the initial cost, it is the intention that the men themselves shall bear a portion of the expense," and so on.

The educational situation of the Army being reviewed as a whole, it may be affirmed, with some confidence, that almost the whole British Army is, up to a point, not illiterate.

Out of 12,577 men who were recruited at St. George's Barracks during the last two years, fewer than ten men were unable to read and write.

The following figures relating to the subject in the French Army are of interest in this connection: —

Classes of Conscripts Joining in 1905.

—	No.	Per cent.
Absolutely illiterate	11,749	3·66
Able to read only	3,280	1·02
Able to read and write	29,021	9·03
Possessing primary instruction of a better character ...	253,654	78·96
Brevet d'enseignement primaire	4,935	1·54
Bacheliers ès lettres	6,286	1·96
Bacheliers ès sciences, and Bacheliers de l'enseignement secondaire spéciale		
Non-verified	12,318	3·83
	321,243	100·00

The Spanish Army, according to the last return, show 29·60 per cent. of illiterates in the "clase" of recruits on their arrival. In the year during which they were with the colours and under instruction, the percentage shrank to 19·50. Of course, where universal service exists, a distinction must be drawn between the conscribed and the voluntary elements. But in this light our returns exhibit a general and most satisfactory "screwing-up" of the educational platform.

The one paramount object of securing a high standard of general education in the soldier is, of course, the development of his intelligence as a fighting man.

It may be urged that the cultivation of thinking power in the ranks might tend to undermine that discipline which is the one sure foundation of all military work. Obedience, unquestioning and unwavering, must always stand first in the list of virtues required to form the soldier's character; but the habit will lose none of its merit or of its efficacy if, instead of being the mechanical obedience of the nail to the hammer, or the stupid acquiescence of the sheep on its way to the shambles, it bases itelf on the intelligent conviction that in active obedience to superior knowledge and experience lies the successful issue of the work in hand. Over and over again it has been shown, and notably in the great retreats which every Army has had at some time to undertake, that the discipline born of tyranny breaks down badly in a tight place, while the discipline which is the product of perfect confidence in the leader can be put to almost any human test.

In these days, and under the changed conditions of modern warfare, it is before all else needful that the individual combatant should be taught to think. To us of to-day such a proposition seems exceedingly obvious. But it was not always so. Time was when drill almost summed up the Whole Duty of military Man. Drill is still as indispensable as ever to secure the cohesion and co-operation of bodies of men, but a new need has arisen for a mental training which shall fit men for acting individually and teach them self-reliance.

Primarily and in its essence the problem is not a distinctively military one at all. In all fields of study experts are in these days insisting on a postponement of specialising. They hold that it is essential to know *how* to learn before knowing *what* to learn. It is the merest commonplace with all engaged in the work of education that the mental faculties should be in the first instance trained by a well-balanced combination of studies calculated to develop the thinking and reflective power.

In a collection of essays, published a few days ago, dealing with public school education, and written chiefly by schoolmasters, this thesis is enforced again and again from various points of view. The authors are referring immediately to the schooling of the well-to-do class; but the principle for which they contend—of teaching the young to think—applies with equal force to all sections of the community.

Mr. Page, of Charterhouse, stating the case on behalf of classical studies, urges that literary training is "essential to the culture and development of the mind."

A great mathematical teacher, Mr. Garstang, actually claims for mathematics a "moral and spiritual" importance and a power of fostering "those subtle capacities of mind which real education alone can give." The same writer adds: "It is sometimes said that the modern man neither thinks nor cares to think; the discovery of the truth about things is an aim of mathematics."

Even as to the all-important study of modern history, so competent an authority as Mr. Arthur Hassall, of Christ Church, observes that a boy is too much "crammed with facts without being taught to think."

Very noteworthy is the testimony of Mr. Eggar, science master at Eton, to the effect that the authorities of technical colleges should accept a little less physics and a little more English; that even the successful competitors in a science examination are not seldom illiterate, slovenly, and priggish, through not having received a sound general education; that before a boy specialises his studies in mathematics and science, he should have qualified in English, geography, history, Latin, and either French or German; and that early specialisation before the average of 16 is undesirable. Finally he quotes these words of no less distinguished a scientist than James Clerk Maxwell: "For beginners the best mental pabulum is, not science of any kind, but some kind of history about people, expressed in good style."

But the most striking of all these authoritative utterances is that of the Headmaster of Felsted, Mr. Stephenson, whose subject is "Engineering." He says that a few years ago the public schools, in response to parental demands, spent large sums on workshops and fitters, framed a new curriculum, and, as he picturesquely puts it, "sent boys home on motor-cycles of their own make." Now the Institution of Civil Engineers has initiated a reaction against too early specialisation. It recommends the study at school of advanced history and geography, of essay and *précis* writing, of English literature, colloquial French and German, and a little Latin. To these are added mathematics, general physics, and chemistry, with, as a recreation, enough carpentry, turning, and surveying to induce handiness and a knowledge of tools. Sir William White is at one with this opinion. He is for keeping a boy at school till 17 to acquire a general education before admitting him to the workshops.

I trust that the point will be considered of sufficient importance to excuse the length at which it has been treated. I venture to say that amongst parents it is still very imperfectly appreciated. Minds are what the Army wants both in its officers and in its men, minds that have formed the habit of quick and concentrated attention, that have acquired an interest and a pleasure in mental occupation, that have become thoroughly alert and wide-awake, that have expanded the circle of their personal observation, and which have thereby gained a sturdy independence of thought.

As a recent writer has truly said, a dead uniformity of thought is observable in every class of the community. Contemporary foreign observers, such as the author of a very able Italian criticism of the British drama, are greatly impressed by a phenomenon which originates in our educational system. The masses of the people are run through the mill of our schools, but they are not taught to think, and there is nothing the average Englishman resents more keenly than being expected to think closely on any question whatever.

The report of a very strong committee of the British Association points to the same conclusion. It desiderates "the cultivation of a taste for reading, and the ability to apply the knowledge so gained to the practical needs of life." "Children from the earliest age should be taught to think." At play the child exercises his reasoning faculty: "it is only in school that the thinking process is allowed to remain unexercised and dormant."

Similar expressions of opinion might be culled from the reports of examiners for the University Local Examinations, from experienced school teachers, and the like. Among Englishmen mental indolence

is the enemy. It lies at the root of half our national shortcomings. It may yet work untold mischief unless combated in time. And it is at school if anywhere that this great battle has to be fought out.

A civilian friend of mine, who has paid much attention to the subject, remarked the other day that while in the mass of the nation a love of study is somewhat at a discount, there are signs in the Army of a great intellectual awakening; and he hazarded the conjecture that England may yet find that her Army has laid her under a new obligation—that it has re-discovered and re-affirmed and held up for imitation the basic truth underlying all education worthy of the name.

It is not irrelevant to add that the adoption of compulsory service—a theme which always fascinates the patriot and frightens the politician—would, by developing his thinking powers, and disciplining his character, invest every able-bodied Englishman with that sense of responsibility incurred and duty to be done which now so often and so sharply distinguishes the servants of the Crown from those who work for private profit or who idle for personal pleasure.

Three distinct efforts, each admirable within its limitations, have quite lately been made by authority to promote thinking power among the troops—the institution of a General Staff, the formation of a School of Economics for the officers, and the issue of instructions for the teaching of trades to the men. The two last have already been referred to. Into the inner sanctuary of the organisation of the General Staff it would be almost a profanity for a mere extern to intrude; but it is true to say that its formation was greeted with profound and enthusiastic approval by all who are jealous for the prestige of the Army. The only danger is lest we should be tempted to regard the creation of this admirable institution as making good all shortcomings in our system of military education.

To whatever high point of perfection may have been, or may still be, brought the directing brain-power of the Staff, it is still of paramount importance that the nervous system of the Army should be braced to its work. The intellectual status of the regimental officer must remain a matter of supreme moment; for, after all, it actually lies with him to make or to mar the efficiency of the unit which he leads. The regimental officers are the men who bear the burden and heat of the day, and their meed is too often oblivion or even obloquy. But when war comes it is to them that, by a process of delegation, the honour and the destinies of their country are confidently entrusted for safe-keeping. And it may be said that it was the regimental officers who snatched the scanty and rather dusty laurels which crowned the national brow at the end of our recent struggle. Beyond all question, the education of the regimental officer is the keystone of the arch of military efficiency.

The intimate and necessary connection, in every department of the service, between public education and military efficiency, is more fully recognised in other countries than in our own. The Germans, the best-educated people in the world, have realised it entirely, and the astonishing success of the Japanese armies is known to have been due, to an extent which it would be difficult to over-rate, to the admirable way in which both officers and men, before being put to any specialised military training at all, receive a thoroughly sound general education.

From various public sources of information may be gathered some interesting particulars as to military education in the Japanese Army, the annual expenditure on which, inclusive apparently, of the cost of the Staff College and of departmental schools, amounts to £250,000 a year, as against the £132,000 spent in the British Army for a similar purpose.

The education and training of the Japanese Army is presided over by a full General, who, under War Office "flying seal," reports to the Emperor direct, and whose position is considered to rank in importance with that of the Chief-of-the-Staff. The training of a youth for a commission seems to be based, after the German model, on general lines, to the avoidance of early specialisation. About one-fourth of the officers join from the civil schools, after passing a competitive examination; the others are subject to a military training from the outset. This course of training is of extreme severity, and its conditions are very rigid. It includes three years at one of the six distinct military preparatory schools, where the candidate enters at the age of fourteen; two or three years at the central military school; one year as an officer-candidate; a further year at the officers' school; and then a final six months, during which the probationer lives entirely with the officers, though his routine duties are those of a non-commissioned officer. At the end of this final test the regimental officers are called upon to decide by vote whether the aspirant is a suitable and eligible comrade. One blackball suffices to exclude, but any officer recording an adverse vote must satisfy the higher authorities, up to the War Minister, that the objection is well-founded. It scarcely ever occurs, however, that an adverse vote is over-ruled, as it is never given without genuine and adequate cause. A very high value is placed on the report made of the officer-candidate, which deals with his character and his capacity, but which may be considered rather as an appreciation of his probable utility to the public service than as a record of his personal achievements.

A peculiar system obtains in the Japanese military schools, which offers rather a sharp contrast to that with which we are familiar. A cadet is not selected, as he probably would be here, on account of his assumed qualifications for leadership, to wield permanent authority. In Japan each cadet in turn, either daily or weekly, is required to act as subordinate commander of his company. This arrangement comports with the whole system, which seems meant to discourage individual leadership, or, at any rate, to aim very distinctly at sinking the excellence of the individual in the principle of collective duty and distinction. Whether the system be right or wrong, its result certainly is that the same spirit of family discipline, which is so noticeable in Japanese civil life, finds its way into the Army.

One or two other points I would like just to mention. Educational posts, like most other appointments in the Japanese Army, have no time-limit. On the recommendation of the commandants, officers are detailed by the War Minister for the teaching work at the military schools, and these appointments are made without any previous communication with the nominees.

A distinctive arrangement is that the instructors at the Staff College are, for the most part, officers belonging to the General Staff,

and it frequently happens that they combine their educational functions at the College with their other staff work. This, of course, brings the general staff into very close touch with the College, and enables the authorities to have a very accurate knowledge of the capabilities of their more scientific officers.

The system of outside inspection is not adopted in Japan, the idea being that an outside inspector has no knowledge of the pupil's characteristics, and no responsibility for the school's administrative efficiency. It is considered outside the bound of possibility that the instructors, who are supervised by the commandants, should in any way exercise favouritism in their examinations.

In the Japanese schools games are not considered necessary, and are but little practised or encouraged, but physical training forms an integral part of the student's curriculum. Yet even here the riding, fencing, and gymnastics, and also the Ju-jitsu and the Ken-jutso are practised without engendering any spirit of personal emulation.

For the further instruction of the fully-fledged officer there are six special schools—the Artillery and Engineers, the Field Artillery, the Fortress Artillery, the Telegraph Battalion, the Infantry Tactical, and the Cavalry. I understand that in these schools there are two distinct courses, the normal and the advanced, and that out of those officers who reach the higher standard one or two are selected for a further course of the highest scientific study.

Aptitude for learning foreign languages is not a strong point with the Japanese, though I am told that a considerable effort is being made to teach German. Chinese classics are studied much as we profess to study Latin and Greek—in order to gain literary culture, as well as to facilitate the acquisition of other Asiatic tongues.

A word as regards the non-commissioned officers in the Japanese Army. They are promoted entirely by selection. They are instructed solely by the regimental officers. They are not examined by any one else for further promotion, but they are warmly encouraged, after six years' service, to attend certain voluntary classes with a view to their being promoted to warrant rank. These classes also are under the sole control of the regimental officers; while, over and above this purely regimental instruction, there are certain technical schools for cavalry artificers, fortress, artillery, non-commissioned officers, ballooning, and electric lighting. A good non-commissioned officer is quite certain, at the end of his military service, of obtaining Government employment.

As to the state of general education in Japan, since the beginning of this century all boys have had to attend primary school at the age of six. After four years' compulsory schooling, they almost invariably attend the higher school for a period of two years, and the parents generally now make a great effort to enable their sons to extend this period to the full term of four years. Thus nearly all Japanese conscripts have had six, and a very large proportion of them have had eight, years' thorough schooling.

The "middle" or civil schools are not very highly esteemed; indeed, the chief merit attributed to them is the fact that they possess a distinct form of military training, for at these schools drill is compulsory and field exercises are practised, the boys being taken

into the country on certain days to be put through an elementary course of manœuvring.

That all nations have much to learn from each other is a truism, but it is not, perhaps, always realised that the essential and fundamental differences of racial character and disposition impose necessary limitations on attempts at mutual assimilation. Imitation must not be indiscriminate. Prince Bismarck said, "You English should not be too hot to imitate Germany. Nations should keep their individualities. The system that suits us does not suit you, your habits, or your character. You have your England ready to hand. Take care that you do not spoil your people." *Mutatis mutandis* the warning holds good of the intense admiration we all feel for Japan. No praise is too high for the simplicity and energy which characterise their military methods. If we cannot copy these methods literally, we can at least strive to imbibe their spirit. It is fair, however, to say that amongst our officers these characteristic virtues of the Japanese are not wholly to seek. The young officer of to-day certainly does not eat the bread of idleness, nor get into mischief in the endeavour to kill time. He works hard and works willingly at his profession, and is often, to my own knowledge, keenly interested in cognate scientific subjects. So with the senior officers, to whose minds the question of their men's improved education seems to be constantly present. One well-known C.O., in the Home District, writes to me:—"I have made a special hobby of certificates, and give the men many indulgences in the winter months as regards afternoon parades, to allow them to attend school."

Much has been said and written lately of Japanese patriotism, of the spirit which it engenders of self-effacement for the common good, of the resulting absence of hero-worship, of the quasi-religious devotion to sovereign and country, summed up—rather roughly—in the world "*bushido*." These things are the natural product of the soil on which they appear. Like our own British characteristics, they are the present-day resultant of a number of social forces that have been energising during many past ages. While it would not be possible, even if it were desirable, to transplant them to our own land, we can, with equal interest and profit, study the wonderful system which has placed our great ally second to none among the military Powers of the world.

In the history of each country is to be sought the genesis of its special national ideals. Our English ideals, the outcome of a long and varied experience, are to be cherished for the sake of that which we prize most, because we are convinced that it matters most, namely, character. An acute English student of Prussian education has said, "The Prussians lay stress on knowledge; we, on character." Education does not consist in storing the memory with knowledge; it is that which moulds, forms, modifies the mind and soul. Dean Church said that in all its parts education must be a combination of authority and liberty; that it only fulfils half its office, and works with a maimed and distorted idea, unless it deals with character as well as with intellect—unless, again, it opens and enlightens the mind as well as directs, and purifies, and fortifies the will.

As to the details of officers' education, I have neither the qualifications nor the wish to dogmatise. On three points only I ask your leave to say a last word.

The first point relates to the so-called University candidates for commissions, whom one would wish to see *bonâ-fide* Honours men. One would like it to be possible so to open the door of the Army as to draw into it the best brains from Oxford and Cambridge. At present, on account of the question of seniority, this is not the case, for you cannot expect men, who, after three years' strenuous study, have competed successfully in the great intellectual arena, to submit to being accounted three years junior in the service to their less gifted contemporaries in age. I do not know if this difficulty be really insuperable, but so long as it lasts its net result is that you do lose what every civil profession can command, namely, the intellectual pick of the Universities.

My second point relates to the study of foreign languages. Apart from other considerations, a thorough knowledge of French and German is surely essential for a scientific officer. It is impossible, for instance, without a complete acquaintance with these tongues, to understand accurately what was at the back of the minds of those two modern geniuses, Frederick the Great and Napoleon. A vast amount of useful knowledge can doubtless be gleaned by reading the translated versions of their biographies; but it is absolutely necessary to study their original correspondence, in order to appreciate the insight that inspired their strategy, and the nervous force that carried it into action.

As regards any professional advancement likely to accrue from the ability to speak other languages fluently, the opportunity—apart from interpreterships—may or may not occur when such facility may prove of practical value. But it is certain that the more an officer has accustomed himself to study foreign languages, the easier he will find it to pick up others, in the event of his having to deal with natives.

The third and last point is the learning of history. The fact is not by any means sufficiently borne in mind that the study of general history as distinct from what is termed military history is of paramount importance. John Richard Green used to complain that our popular history books consisted too largely of the drum-and-trumpet element. The converse proposition is no less true, that our drum-and-trumpet annals need diluting with other subject-matter. The officer of to-day, for instance, enjoys the special advantage of being able to place himself—as regards the British Army—under the extraordinarily able and competent guidance of Mr. Fortescue, an acknowledged expert no less in unravelling the tangle of politics than in illustrating the art of war. This writer's *magnum opus* is a political history in the guise of a delightful narrative, while from a military point of view it contrasts very sharply with the treatises of my day, which sadly perplexed the unhappy subaltern in the study and sorely misled him in the field.

The end of all war is peace, and peace means administration, and half the fruits of victory have often been lost by a general who, having achieved brilliant success in the field, proceeds, it may be from ignorance of international law, or from a scanty familiarity with past political events, to commit grave errors in arranging a subsequent settlement. War, whilst it is being waged, may seem to mean no more than a series of bloody engagements. But, when it is over, its historical and permanent significance lies in its political

antecedents and sequel. And again, in the process of the extension of our Empire, it frequently happens that quite junior officers are called upon to administer newly-acquired tracts of territory under the protection of the British flag. It is impossible for them to be adequately equipped for such a task unless they can bring to bear upon it some knowledge of that great story of British colonisation of which we are so justly proud.

Will you bear with me while I try to summarise the conclusions to which our investigations seem to point:—

1. All preparatory education must be for war, and for the wars we are likely to wage.

2. Our wars are quite unlike those entered upon by other European nations, of which the probable terrain can be foretold with some confidence.

3. Therefore our military education must be far more general and be based on the encouragement of initiative and common-sense in unforeseen contingencies.

4. Let us therefore (*a*) decentralise and diffuse instruction through *all* ranks; (*b*) let us not blindly follow Continental examples in either syllabus or method of instruction; (*c*) let us encourage officers to read and learn from one another, and themselves to instruct their subordinates; (*d*) let an end be put to persecuting officers with demands for "essays," etc., which are, more often than not, written by crammers, while those who try to do the job themselves are "sat upon" for not doing such good work; (*e*) let us hope that no one will assume command of a regiment or battalion who is not fully capable of instructing his own officers in their profession, and let it then be left to him to see that his officers are up to the mark. Let us even venture to hope, further, that Generals may be appointed on the same principle.

5. Let us strive to get real professional education all through the Army, thus making the Service popular, besides causing the highly educated officer to be well thought of by his brothers-in-arms.

6. Let us never forget that we are dealing with a voluntary corps of officers and a voluntary Army.

7. Let us act on the experience that many an officer has found company or squadron or detachment training the most interesting part of soldiering, because it affords so good a chance of teaching; for it is surprising how keen both junior officers and men will become if you teach them, to begin with, *how to learn;* then *what to learn* comes easily.

It is indisputable that the complete education of an officer must include teaching him how to teach others. The French officer, in this department of his work, enjoys the great advantage over his British *confrère*, that he has assigned to him a complete batch of men from the moment they join the colours, and is able to bring his personal influence to bear upon them from the commencement. "*L'Officier Educateur*," as the term is, is just now *the* topic of military conversation in France.

With us it is different. Before a man comes under the observation of his eventful leader, he has either been sent to a recruits' depôt or been broken-in in the recruits' class in barracks. It is all the more to the credit of the modern officer that, in spite of this system, he seems every day to be better and better acquainted, and more and more in touch, with the character and promise of proficiency

exhibited by his men. The existence of this sort of sympathy and co-operation between the staff officer and the regimental officer is as important as it is between the latter and the men whom he has to instruct and to lead.

It is in fine so, and so only, that the British officer will not simply adorn his profession with his own merits, but will also be able to cut out, to shape, and to use to the highest national advantage the splendid material which is abundantly and incessantly placed in his hands.

Colonel LONSDALE HALE, R.E. :—It is the custom in this Institution to send to every member of the JOURNAL Committee a copy of the lecture as soon as it is printed and before it is delivered. So I had the advantage of receiving a copy of the lecture yesterday morning. Sometimes I get a lecture I do not appreciate having to look at; but on this occasion I obtained a lecture on a subject in which I take the greatest interest, and I had time to thoroughly study the lecture, and to form my own views with regard to it. I mention this because the lecturer will find that I differ from him on certain important points, and I should be extremely sorry if he thought that my difference with him merely arose from a casual look at his lecture, and a desire to hear my own voice. I am afraid, Sir, that the lecturer takes in certain parts of his lecture a most terribly pessimistic view of the education of the Army. In reading over the paragraphs in which this expression of opinion occurs, I think my difference with the lecturer may arise from our putting different meanings to the same words. This is a lecture on military education, and the lecturer uses the word "education" and the adverb "educationally" over and over again. But looking through the lecture I cannot find out exactly what the lecturer's definition of education is. He uses with regard to it certain well-known expressions, but he gives us no clear definition. I will give him and the gentlemen who are present my idea of what education is, and what the education of a soldier is. If I have to take in hand a man and train him to be a soldier, I teach him how to be a soldier, how to do and how to act in the open, as far as one can do so in time of peace. I give him field training, I make him read what has gone on in the past, and finally I train him to think over what he does in the field and over what he finds has been done in the past. Therefore I hold that when you speak of education or educating a soldier you mean that he learns how to do; he reads, and he learns how to think both while he does and while he reads. If he only reads and thinks, he becomes an armchair critic, and may become a pedant. If he only does, he does not go into the field and do his work as well as he would do it if he had read and thought. That is my idea of military education. Therefore I was very much astonished when I came across a paragraph, which you will find on the fifth slip of this lecture, and to which I should like to draw your attention. You will find it says: "Once an officer has obtained his commission, nothing more is done for him educationally, even the perhaps doubtful assistance of garrison classes having now been abolished. He is taken as educated." I know what the feeling of Aldershot is at the present time: "I wish they would take us for educated, but they do not." Go to Aldershot at any time in the year, and you will find, first of all, men out under their subalterns or under their captains being trained to do. A little later on you will find the captains being taken out by their colonels, and not only made to do but made to think

by sending in their remarks afterwards. The other day I went into the mess of the Northumberland Fusiliers. The colonel and many officers were away on a regimental staff ride, where they were learning how to do war and thinking about it. I went into a general officer's house; he pointed to some papers and said: "Here have I been two days writing out for my divisional generals what my view of the situation is for the next staff ride." Then I find Sir John French everlastingly thinking, reading, and teaching people how to do. Therefore my view is entirely different from the view expressed by the lecturer in this paragraph; the British officer is not "taken as educated" when he gets his commission; his education begins then; and you find at Aldershot that that education is carried on for officers of every rank the whole of the time they are at Aldershot, and throughout the whole of their career. Therefore, so far as nothing more being done for the officer educationally is concerned, I differ altogether from the lecturer. Then I come to a remarkable phrase in the next line, which I think I can account for: "And has *merely*"—I hope there are some subalterns here—"And has *merely* to pass his examinations for promotion." I can account for the lecturer using those words. I suspect he passed his examinations for promotion in the good old days, perhaps before the war, when I settled the tactics myself, and in the days when we had to lower the ·4 for the qualifying down to ·3, with the result that when the papers for the ·3 were sent up they were not worth ·25. General Hutchinson may be astonished when I tell him that, with regard to some of these papers, when I reported to London: "I shall have to spin twenty candidates," the semi-official answer sent down to me was: "You are not to do it; twenty is too many." So that I can understand the lecturer talking about "merely" passing his examinations for promotion. But nowadays passing the examination is a very serious thing indeed. Then I come to another statement with which I cannot agree. The lecturer says: "And has merely to pass his examinations for promotion, which are not educational tests." Examinations for promotion not tests as to whether a man has been taught how to do, how to think, or how to read! I take up the King's Regulations for 1906, and I read: "The professional examinations required for promotion comprise the following subjects: regimental duties, practical, oral, and written drill and field training; practical only: practical military topography, practical military engineering, practical tactics." If those are not tests of certain branches of education, I do not know what are. But perhaps the lecturer will say: "Oh, I mean your confounded written examinations; those are the things." Well, but you cannot test a man's knowledge unless you have in certain branches written examinations. One of the duties, I imagine, of a cavalry officer, in the field would be, if he was sending out a cavalry patrol, to take a map and mark on the map where the enemy is. And also, perhaps, on the map in red pencil, we will say, the line the patrol is to take, where it can be best covered in going along, and where it can best see the enemy. How can you test that knowledge except by examination? A man under examination is given such a sketch, and you ask a question on it; and that examination is a test of education. Then we consider the question of reading, reading history and thinking over it; and how can you test that without a written examination, without giving the candidates a test of whether they have read and thought? I think the lecturer must be thinking of the days before the present *régime*. I am not making any breach of

confidence when I say that, if you look at a certain regulation sent out by the present Director of Staff Duties, you will find that the examiners are ordered—and they carry out the order—not to set mere questions of memory, but to set questions which will make the candidates show whether they have thought. That is the principle upon which modern examinations are conducted. I remember one well just after the war that I had the honour of being entrusted with. I had to examine some officers who had come back from the war, and I was perfectly astonished at their answers. Before the war they certainly could never have answered the questions. The subject given was Stonewall Jackson's two volumes, and I never read such answers—they were simply admirable. That is a book which teaches everyone; it makes one think and understand war; and all these officers showed that they had not only read this valuable book but that they had thought, and thought to advantage about it. Therefore I cannot for one moment accept the statement that mere promotion examinations are not educational tests. Now I pass on to what I consider is rather a more serious matter, and that is referred to on slip 6, where you will find a paragraph about the Staff College. I do very much regret that, while the lecturer has been giving rather a poor view of our military education at some points, he has not told us anything in favour of the Staff College. If there is a place I know it is the Staff College, and I deliberately say—and I am glad Sir Henry Rawlinson is away while I say it—that during the four years Sir Henry Rawlinson has been in charge there, although he received a practical system from his predecessors, he has developed that system in a way that makes the two years' training in the Staff College about the highest kind of training that you could possibly devise. He does not think it desirable simply to train officers to become brigade-majors; he trains them for the highest duties. I saw a young officer the night before last in the Staff College, and I said to him: "You are hard at work." "Yes," he said, "on lots of things; but I daresay it is all right; it will open my mind to what I shall have to deal with in future years." I have watched the Staff College for years and years, and I certainly consider the education of the Staff College deserves the very highest praise, and ought to be mentioned in any lecture upon education. I am very glad to have the opportunity of giving my humble public testimony to the value of that education. In the next paragraph the lecturer says: "To obtain higher employment as a Staff Officer, a Staff College certificate is now necessary, which the authorities appear to think essential." They do not "appear" to do so at all; they do think it essential. It is essential, except in certain cases. Then the lecturer goes on to say—and I cannot help thinking there must be something wrong in the putting of the sentence — "That is all very well, provided that the candidate has sufficient means, either to obtain the assistance of a crammer, or to enable him to travel abroad to learn foreign languages." That refers to the Entrance Examination; it cannot mean anything else, because officers when at the Staff College do not take up foreign languages as studies, and they do not go to crammers; they have no time for that. "A poor man, that is, a man who has only from £100 to £200 a year of his own, is practically debarred from obtaining a Staff College certificate." If I had simply said that all my experience was dead against that you would have said: "Yes, but the lecturer says it is the other way, and who is to decide between you?" I was so astonished when I got this paper that I determined at once to go down to the Staff College and

find out what I could about it. I went down last night about five o'clock, when the officers had come in from the "drag." I did not go to one man in particular, I took them in turn as I met them, and I think it will interest you if I tell the answers they gave me. I will give those which are against me as well as those which are for me. I did not know what corps they belonged to, and I simply took the men as they came. I entered their answers in the book I have here. What I want to show you is that the lecturer is, I think, under a delusion. I hope it will not go forth from this room that a man cannot enter the Staff College unless he has £100 or £200 a year of his own—that he cannot even go up for his examination. I went into the map room first of all and found a man sitting there. I said to him: "Tell me what your entrance to the Staff College cost." He said: "I was at it two months at £30 a month—say £60." Then I found out that he brought his wife with him to London, and that he and his wife were living in London during the whole of those two months. If you like to bring your wife to London with you while you study, of course your wife must enjoy herself a little bit, so I think we may make a slight deduction off that £60. Remember I am speaking about what we call the expense of crammers. I was a crammer myself for three years and I know what the expenses are. However, I put him down at £60. Then I went into the outer library, and found a fresh comer whom I did not know. I said to him: "What did it cost you?" "£2 10s.," he said. "How was that?" I asked. He replied: "I did not go to a crammer; I was at Chatham, where there was a good library, and I gave £2 10s. for the extra books I required." Then I went into the ante-room, and I met a third man who had just come in. I asked him the question and he said: "It cost me £60." I said: "Why £60?" It turned out that he was stationed very far away from London, and that he ran up to town from time to time to study in London in order to have the advantage of a crammer. The fourth man was sitting alongside him, and he said: "Put it down as £7 10s." I said: "Why £7 10s.?" "Because," he said, "I corresponded with my crammer, and that was my crammer's bill—£7 10s." I said to him: "What about foreign languages?" He replied: "I knew them; I had nothing to pay for foreign languages." Then I went into a group. I will not give all the details on account of time, and it would not interest you; but there were only two men who said it had cost them £100 to get into the Staff College, and the reason of that seemed to be that they took up the course very late; they had to remain in London a long time and spend a good many weeks at the crammer's. Those two were exceptional cases. The majority I found said: "Well, below £50." But there was one man who said £300. Goodness! There was a shout at once. "Yes, old chap, but you went to Manchuria; you are not going to put all the expenses of that trip down?" The record was made by a gentleman reclining in an arm-chair in the ante-room, who said: "£400." Shouts of applause and derision greeted this statement. The fact is, to get into the Staff College a man must pay something if he wants help; a man, however clever he may be, does well to go to what is called a crammer to be told how to learn; but as to requiring £100 or £200 a year of your own to get into the Staff College, I assure you it is an utter mistake; and I can tell you that at the present time there are Staff College men who have nothing or little whatever besides their pay to live on. One who will do well at the Staff College said, when I read that paragraph to him: "£100 or £200 a year besides my pay? Why, I have not 200

pence of my own." A man, by taking care of his means, and by hard work, can get into the Staff College, provided he has brains, with a comparatively small expense. I have made these remarks because the paragraph as it stands in the paper will convey, not merely to the Army but to foreign nations, the idea that the Staff College of this country is only for rich men, and that it is only such men who will be able to get on to the Staff—an idea absolutely erroneous.

Lieut.-General H. D. HUTCHINSON, C.S.I. (Director of Staff Duties):—I am sure we are all extremely indebted to the lecturer for giving us such an admirable discourse. These lectures are not only excellent in themselves, but they do great service by the discussion which they provoke, because one is thereby enabled to hear many sides of a question. While I cordially agree with much that has been said, there are one or two points on which I should like to offer a word of explanation. I do not propose to go over those matters which have been referred to by my friend Colonel Lonsdale Hale. I will merely say he is an expert on these subjects, and there is no man who has done more in the cause of military education than he has. Therefore, whatever he says is entitled to attention. I should like, however, to say one word with reference to the Staff College, and that is, that whatever it costs officers to prepare for the Staff College, and to live there during their 2 years' training, it is at all events certain that the competition to enter the Staff College was never keener than it is at the present time. That shows that officers see the advantages of education; they realise that if they want to rise in their profession they must give themselves the best preparation they can, that they must take an interest in the serious side of soldiering, and by every legitimate means in their power do what they can to make themselves fit for Staff and higher appointments. But the point upon which I wish particularly to speak is the comparison that was drawn by the lecturer between the University candidate and the Sandhurst cadet. He said that the University candidate is highly appreciated by commanding officers, who think that, on the whole, he is the best man that comes into the Army. I am the last person to say one word against University candidates: I have the greatest opinion of them. They have all turned out well, so far as I know, those that have gone into the Army, and at the present time it is most gratifying to know how the Universities are throwing themselves into this question, and enabling us to tap a most valuable source of officer recruits. Oxford, Cambridge, Dublin, Edinburgh, Manchester, Leeds, and other Universities have now formed, or are forming, Army Classes, and instituting Military Chairs; and we, on our side in the War Office, are doing what we can to assist them, and to encourage University candidates to offer themselves for commissions in the Army. The results so far are small, but they are gradually increasing; and I am quite sure that in time we shall have a regular stream of recruits of the best kind from the Universities. The University authorities have entered into this matter with thoroughness, and have most cordially co-operated with the War Office in every possible way. I am glad to pay this public tribute to their friendly spirit and genuine endeavour. Still, when all is said and done, I must say that I think on reflection it will be generally admitted that there can be no material for the commissioned ranks of the Army which is quite equal to the Sandhurst (or Woolwich) cadet. The Sandhurst cadet is a boy who, as a rule, from his earliest years has had his thoughts directed to the Army. You will find in the majority of

cases that he is connected with the Army by birth and tradition. Probably his father or his forefathers have served the King or the Queen, and so he early decides upon the Army as a career. He therefore has a special preparation for the Army; his education from the beginning is adapted to that end, and he lays himself out to pass as soon as he can and as well as he can, because there are prizes to be won, such as Indian Army appointments, which are well worth trying for. When he gets to Sandhurst he is for two years at a Military College with 300 or 400 cadets like himself, all wearing uniform, all under military supervision and discipline, and during the whole of that time with officers for his instructors. He gets really first-rate theoretical instruction and practical training in military subjects. He is living all the while in a military atmosphere; he lives amongst soldiers; he goes to camps of exercise; and if you compare this kind of life and training and the bent which it must give the boy's mind, I think you will admit that he probably reaches his regiment better qualified in all professional matters than the University candidate, who probably did not contemplate a military career originally, but thought of it later. This will be improved no doubt in the future, but I am speaking of how it has been in the past, and of what the conditions are more or less now. The University candidate at the time he enters a University probably was not intending to enter the Army; he thinks of it later, and the military training which he gets and the instruction in military subjects, *e.g.*, history, topography, and engineering, are, from the necessities of the case, wedged into the intervals of preparation to take his degree. I think under the circumstances it is remarkable that the University candidate is so good as he is. I have not one word to say against him; we are entirely satisfied; but I believe University Candidates will be the first to admit that if they could get 12 or 18 months' or 2 years' training at a Military College like Sandhurst, in addition to the course they take at the Universities, they would be the better for it. I do not think anything can quite replace the Sandhurst training. It is quite true that the length of the course at the Royal Military College has been varied in an unfortunate manner: it has sometimes been twelve months, sometimes eighteen months, and sometimes two years. At the present moment it is eighteen months. We have often tried to find the money to enlarge Sandhurst to hold a sufficient number of cadets to enable us to give them a solid two years' training, and at the same time to maintain the necessary output. Some time ago, during the South African war, there was a serious shortage of officers, and in order to increase the output of the College we had to decrease the period of residence. It was a necessity forced upon us, but it has passed away now. A quarter of a million sterling has been allotted for the enlargement of Sandhurst, which is to be taken in hand at once, and in future I hope there will be no variations of this kind, which are unfortunate for many reasons, and add enormously to the difficulty of training and administration There is one other point to which I wish to refer, and that is the question of languages. The lecturer spoke of the desirability of officers being well acquainted with French and German, and said that more ought to be done to encourage the study of modern languages in the Service. It is quite true that the study of French and German has been eliminated recently from the Staff College course. The opportunity to study at the Staff College comes only once in a man's lifetime. Officers go there for the special purpose of being trained in the higher duties of the Staff, and it is desirable, we think, that the whole of

their time there should be devoted to military subjects and to professional matters. French and German in these days are really part of the equipment of every English gentleman; he learns them as a matter of course, and there are probably very few officers who are not able to read French literature without any trouble. There are not so many perhaps who can read German. However, I am glad to be able to say that a scheme which we have for a long time been trying to arrange to provide greater facilities for the study of foreign languages is now sanctioned, and the details of it will shortly be announced. Amongst other things it is proposed to help officers to go abroad, and to give them rewards for proficiency. Thus they may improve their knowledge of a language by studying it on the spot. Also it will enable us to give more attention to the particular language which for various political and military reasons may happen to be important at the time. It will be an elastic scheme, and I think when we have it working, a good deal will be done to popularise the study of modern languages. It is also intended to form language classes, in French and German particularly, at principal military centres, so that officers will have an opportunity to lay a foundation for study in this country before they proceed abroad. So you see this important matter is receiving attention. There are other points in the lecture I would like to notice, but I am called elsewhere by an official engagement, so I must conclude my remarks with thanks to the lecturer for his interesting essay.

Colonel A. M. MURRAY (Commandant, Duke of York's Military School):—Although Colonel Lonsdale Hale criticised this lecture rather severely, I am disposed myself to agree with what General Hutchinson has just said, that it is a very valuable and useful lecture indeed. Sir George Arthur has put forward many suggestions and thoughts for our consideration which will be most helpful to us who are working in the cause of military education. I think perhaps the primary value of the lecture is the source from which it comes. Sir George Arthur lectures here not as the representative of the General Staff of the Army, not as a representative of the teaching profession, but as representing public opinion outside the Army and outside the teaching profession. I think until we get the pressure of a strong outside public opinion to bear on educational matters, we shall never get educational reforms, and never obtain any real educational progress. I could name many reformers who are anxious to press their reforms forward, but there is no outside pressure to urge them forward and bring its influence to bear on the authorities to sanction reforms when they are put forward. In talking about educational reform, I should like to say that I have myself lately had opportunities of visiting foreign countries, and I have come to the conclusion that our country is the most conservative in the world in regard to educational matters. We cling to our old methods and our old systems with a tenacity which I sometimes think would be better used in a better cause. Let me mention one reform only as an example of what I mean. Take the question of outside examiners. Every other country in the world except England has given up outside examinations. As long as we have outside examiners so long shall we have the teacher, in order to save his own face, playing up to the outside examiner, and the outside examiner, in his turn, playing down to the teacher.

Colonel LONSDALE HALE:—Why?

Colonel A. M. MURRAY :—I will explain if you will kindly have a little patience with me. The teacher, knowing that he must satisfy the outside examiner, has to confine his teaching entirely to the syllabus which is given him and to the Text-Book, which is authorised for the use of himself and his pupils. He can allow himself no latitude, no opportunity for bringing his own individual personality to bear on his pupils. It is a cast-iron system, which is rigid and inelastic, and cannot be made to adapt itself to varying individual circumstances. Equally, in his turn, the outside examiner has to play down to the teacher, because if he goes outside the Text-Book he is always open, as we know so well, to the charge of setting questions which are not in the course, and they are at once struck out from the list of questions. Confining himself to the Text-Book, he has to set Text-Book questions and to be content with Text-Book answers. The system produces crammed learning and cramped teaching, and this is not education at all. I do not propose to say more about this just now, but I mention this question of examination reform as one of those reforms which we are anxious to press forward, although perhaps this is not the time or place for me to speak on a subject which is coming up for official consideration. Passing to another part of the lecture, I should like to endorse what the lecturer has said with regard to the effect which education has had on the Japanese. In Japan education and efficiency go hand-in-hand together. How often we hear it said: "What a wonderful people these Japanese are! Forty years ago they were going about with bows and arrows, and now Japan is the most up-to-date country in the whole world." To those who know and have studied the methods of the Japanese, it is not at all wonderful, but, on the contrary, the most natural thing in the world. It is true to say of Japan that she owes the rapid development of her people and her institutions entirely to education. I am quite sure that if other countries—China for instance—were to adopt the same system of national education which has raised Japan to her present condition of advanced civilisation, they might become as great and as efficient and as up-to-date as Japan now is. When I was in Japan I had the honour of an interview with a very distinguished Japanese soldier, Marshal Oyama, when I ventured to ask His Excellency what was the cause of the successes of the Japanese in the war with Russia. The Marshal said the first reason of the success of the Japanese arms was the good cause which Japan started with, and without which the Japanese could have done nothing. But behind that came the spirit of sacrifice, and the spirit of patriotism, which filled the hearts of every Japanese officer and soldier, and that "spirit of sacrifice" — I well remember the Marshal's words—"was due to education." This was a very remarkable statement from a very remarkable man. Having obtained that opinion from Marshal Oyama, I afterwards went to see the Inspector-General of Military Education, General Baron Nishii. General Nishii was one of the first men of the Japanese Army to get into Manchuria, and one of the last to come out of it. He commanded a division of General Kuroki's army, and his opinion as a fighting general is a very valuable one. I asked Baron Nishii what were the fundamental principles which guided Japanese military education. He thought for a few moments and then with great earnestness and great solemnity he dictated to my interpreter the following sentences, which with your permission I will read. I may say that the translation of the sentences quoted was sent subsequently to the Baron, and he was asked to correct the translation, so the words are really his own words, and not words

put into his mouth. They are as follows:—"The guiding principle of the Japanese military system is character training by means of moral teaching, which exacts obedience, enforces self-sacrifice, and requires the effacement of the individual for the common good. The ethical teaching inculcated in the Imperial Rescripts on Military Education places loyalty to the Emperor and duty to the country as a first object before every Japanese youth. The Japanese officer must have no personal ambition, but must regard himself as part of that great military machine which exists to carry out the will of the Emperor and to defend the country from attack. It is the aim of the senior officers of the Army to uphold the tenets of that high standard of duty by their own example, and at the same time to foster military spirit by appealing to the revered traditions of the nation, and to the heroism of those great men who have gone before, and to whom their descendants are responsible for carrying on the national tradition of patriotism." That last word—"patriotism"—is the key to the Japanese system of military education, and the key to the successes of Japan in the field. What I am very anxious to bring out is that the patriotism of the Japanese, about which we hear so much, is really due to education, and to education alone.[1] I do not quite agree with Sir George Arthur where he says in one part of his lecture that the patriotism of the Japanese nation is the natural product of the soil in which it appears. I do not think the Japanese people are any braver than we are, or that they have less regard for life than we have, but I believe that by their education and training, which begins in early youth, when they grow to manhood, the spirit of patriotism and self-sacrifice has so taken possession of them that their leaders can do anything they like with them in the field, and they actually prefer to die in battle rather than live by surrendering.

Sir GEORGE ARTHUR, Bart., in reply, said:—I will not detain you for more than a few minutes in replying to the remarks which have been made. Colonel Murray has adduced some arguments against what I said about the spirit of patriotism in Japan. What I really meant to say was, that the spirit there is sharply different from anything we can hope to see literally translated here in a country, the people of which think it is quite impossible to devote any portion of their time, as well as a little of their money, to the public services. Therefore it would be better for us, instead of literally imitating the things which they do in Japan, to imbibe at least some portion of the distilled spirit which we can get from them. That is really my idea. I yield to no man, not even Colonel Murray, in my keen admiration of the whole system and spirit which prevails in Japan. General Hutchinson made some remarks about University candidates. The paragraph in my paper saying the commanding officers preferred University candidates to Sandhurst candidates was not my opinion at all; it was the opinion of the authority I quoted. The only thing I brought forward about University candidates was that I should like to see the Army open to men who have enjoyed a real University career. I do not consider a man to be a *bonâ-fide* University candidate if he has simply gone through Oxford for a year in order to get into the Army. He does not represent the intellectual pick of the University, and as such he is not to be described, from a national point of view, as a *bona-fide* University candidate at all. With

[1] In all Japanese schools "patriotism" is included in the school curriculum as a subject of instruction in the same way as mathematics, chemistry, physics, or any other subject.—A.M.M.

regard to Colonel Lonsdale Hale, who quite drove home several criticisms, I am able to accept them the more readily and to bow to them the more meekly, as they are not driven home against me at all. In each case he criticised two authorities which I adduced: one a distinguished general officer, the other an equally distinguished cavalry officer. I merely set before my audience their opinions. It would not have been seemly for me, with my limited military knowledge, to attempt to criticise the inner working of military institutions. I merely held up, with my quite unprofessional hands, two torches which threw a flickering light, as I thought, on the situation, and which, at any rate, have induced the powerful search-light which has been brought to bear upon them by Colonel Lonsdale Hale. So far they have done their duty and so far I thank both my authorities for providing me with them, and I also thank Colonel Lonsdale Hale for the flood of light he has thrown upon these difficult problems.

The CHAIRMAN (Major-General the Hon. Sir F. W. Stopford, K.C.M.G., C.B., Commanding the London District):—I am sure you will allow me to begin my remarks by saying with what great pleasure we have listened to this very interesting paper, in which Sir George Arthur has given us his views so lucidly and clearly. I think we must all agree with his main contention, namely, the absolute necessity of a high standard of education being maintained in our Army, both amongst officers and other ranks. What struck me as the key-note of the lecture was, that whatever may be our system of education, it is all-important to insist upon encouraging the capacity for thinking, both amongst officers and men, which capacity can only be acquired, as Sir George Arthur said, by constant and careful training. I think the conclusion he came to was perfectly sound, namely, that what the Army wants—I am using his own words—"both in its officers and men, are minds that have formed the habit of clear and concentrated attention, and that have acquired an interest and a pleasure in mental occupation." This, I am afraid, is a little overlooked, and there is sometimes a tendency on the part both of those who teach and those who are taught to confine the acquisition of knowledge to what is required for some specific purpose, such as the passing of some special examination, and not sufficient attention is paid to inducing officers and men to acquire that capacity for thinking which will render mental occupation a pleasure. If this capacity can be attained, the passing of an examination will be much easier work than it is at present for everyone concerned. I am very glad he brought the two questions of the education of the officers and men into such close connection, because I feel sure that they react the one on the other, and that the more highly educated an officer is, the more will he realise the necessity for fostering the intelligence of his men, and the greater capacity will he have for making the best use of that intelligence. With regard to what he said about the education of the officers, there is one point upon which I feel very strongly, namely, that an officer must be well educated before he joins the Army. We had a good object lesson after the last war. A certain number of young gentlemen joined the Army with a standard of education far below what had been customary in the Army, and it was left to the commanding officers to do the best they could to educate those officers. They did their very best; but I wish to make a great point of the difference that exists between educating officers in the general acceptation of the term and giving them military training. Those who are not in close touch with regimental officers do not realise what an enormous amount of trouble those commanding officers took. I was at Aldershot at the time,

and I well remember the great interest they took and the time they expended in trying to educate those officers. They deserved the greatest commendation for the work they did; but they unanimously came to the conclusion that it was not possible for a commanding officer to educate an uneducated officer. They could, and in fact they realised it was their duty to give them military training. I do think it is not a fair task to lay upon a commanding officer to expect him to impart either general education or military training to a partially educated officer. He has a great many far more important duties to perform. As regards the training of the men (a point not touched upon by any of the gentlemen who joined in the discussion), it certainly is very satisfactory that we have a higher standard of education in our Army than we previously had. But considering the great expenditure of energy and money that is devoted in the country now to the education of the children, I have often been surprised that there are still a certain number of men in the Army who are practically illiterate. I could not see how this could be possible with compulsory education, but Sir George Arthur has explained it very well, namely, that two or three years' interval without mental exercise results in mental decay, and that a certain number of men who are taught as boys in the schools do not attempt to read or write when not compelled to do so, and lose the knowledge they have acquired. The result of this hiatus is that by the time the boy joins the Army he has lost all his early education, and has to be taught all over again. I cannot help thinking there must be some blot in the system of education in the country that such a thing should be possible. This, however, is no business of mine. From a military point of view, however, it is worth considering whether some system should not be introduced by which we could get hold of and train lads somewhat on the lines adopted for the Navy, so that by the time they joined the ranks they will not have forgotten the education that was given them as school-boys. I think the Army schoolmasters deserve the greatest credit for the trouble they take in improving the education of the Army, and I can fully bear out the praise given them by Sir George Arthur. It must be very uphill work for them to have in certain cases to practically re-train and re-teach men what they have learned before. The number of these men, luckily, is very small; and not only in their case but in that of the better educated men. I do not think we should have the very good results we obtain if it were not for the fact that the Army schoolmasters do their work with the greatest possible zeal and keenness. I think their success is due to the fact that they realise that the great thing to aim at is to interest their men in their work and to encourage their capacity for thinking. May I give one very interesting case I heard of the other day? Up to now some of the subjects for the first-class certificates of education were not very interesting to the candidates, nor did they appear to them to be of much use from a military point of view, and very rightly, I think, the authorities have changed the examination and have included composition and topography, as the lecturer has said. In one command sixteen non-commissioned officers had passed the examination for the first-class certificate, but when they found that these new subjects had been added on, they all voluntarily came up and asked that they might be examined in the new subjects, as they were so interested in them. I am sure you will agree that this is most satisfactory, as showing not only the great interest taken by the officers, but also by the men, in the acquisition of military knowledge. I will not say any more, except to ask you to give a very hearty vote of thanks to Sir George Arthur for his most interesting and instructive lecture to-day.

THE BATTLE OFF TSU-SHIMA.

IN MEMORY OF "THE SUVÓROFF."

A PERPETUAL TRIBUTE TO FALLEN HEROES.

Translated from the Russian of Commander Vladimir Semenoff, Imperial Russian Navy,

[With the Author's permission],

By Lieut.-Colonel W. E. GOWAN, Retired List, Indian Army.

(Continued from September JOURNAL, p. 1148, and Concluded.)

KURSEL, the boatswain, and I, helped by two or three sailors, then brought down from the upper battery several half-burnt hammocks, and some ends of rope,[1] and we began out of this material to construct a kind of raft, on which we proposed to lower the Admiral to the water, and so get him on board the torpedo-boat. It was, of course, a risky method, but there was no other way out of the difficulty.

The raft being ready, and Philippovski having come, I went back to the turret and called out:

"Your Excellency, will you come out? Philippovski is here!"

The Admiral gazed at us in silence, and shook his head. He would consent to nothing, and he would do nothing. The situation was embarrassing in the extreme.

"Why are you so long considering?" suddenly exclaimed Kursel. "Take hold of him! See, how badly wounded he is!"

And really all present were only waiting for a word or a suggestion of the kind, for every one at once ceased talking and began to act. Several men now squeezed their way into the turret, and clasping the Admiral under his arms, raised him up, but his left foot had scarcely touched the floor of the turret when he began to moan and finally became unconscious. This was, perhaps, the best thing that could have happened.

"Haul! Haul away! Easy! Sideways! Turn him over! Stop, its splitting! What's splitting? His tunic's splitting! Haul!" were the anxious voices that echoed on all sides.

With great efforts, the Admiral was dragged, in spite of torn clothing, through the narrow opening of the jammed door to the stern gun-port, and we were about to secure him to the raft, when Kolomeitseff did that, which can only be done once in a lifetime, and then only in a moment of inspiration. Readers who are only acquainted with the conditions of land travels, cannot, of course, picture to themselves all the risks of what we were doing, but to sailors it will at once be apparent. The commander of the torpedo-boat brought

[1] On board ship they speak of "ends of rope" and not merely "rope." *Author.*

her right up alongside to windward of the battered battle-ship, with her overhanging and jagged half-ports, with her projecting but disabled guns, and with the bristling array of broken bolts belonging to her wrecked torpedo net equipment.[1] As she heaved up and down on the waves, the torpedo-boat now rose with her deck almost on a level with the gangway, now dipped down far below it, now was carried right away from the battle-ship, then violently swung almost on to her beam ends, every moment running the risk of having her thin plates pierced by colliding against some projection on the immobile mass above her.

The Admiral was hurriedly dragged by the arms from the stern to the fore gunport along the narrow passage between the turrets and the shattered sides of the upper batteries, and from there he was let down on to the backs of men as they stood on the lowered half-ports, or as they hung on to the sides of the vessel, until at last he was almost thrown on board the torpedo-boat, the moment for doing so being chosen when she rose on a wave and was carried right against the battle-ship.

"Hurrah! the Admiral is on board the torpedo-boat."

"Hurrah!" shouted Kursel, as he waved his forage cap.

"Hurrah!" thundered those around.

How I, with my crippled feet, managed to get on to the torpedo-boat, I do not remember. I only know that as I lay on the heated casing between the funnels, I looked, with a fixed gaze, on the "Suvóroff."

These were moments which will never be effaced from my memory.

The torpedo-boat, be it remembered, whilst alongside of the "Suvóroff," was not only exposed to the danger of being stove in, for both the "Suvóroff" and the "Kamchatka" were still under a vigorous fire from the Japanese vessels, and some of her men had already been killed or wounded by splinters so that at any moment one successful shot might send her to the bottom.

"Shove off quickly!" cried Kursel from the gun-ports.

"Don't lose a minute! Shove off! Don't drown the Admiral!" roared Bogdánoff, as he hung over the side and shook his fist threateningly at Kolomeitseff.

"Shove off! Shove off!" repeated those of the crew who had climbed up on to the turret glacis or who were looking out of the ports of the batteries, as they waved their caps.

Selecting a favourable moment for the torpedo-boat to let go, Kolomeitseff gave the order to move astern.

A farewell "Hurrah!" was borne along from the "Suvóroff."

I have said "from the 'Suvóroff,'" but who would have recognised in this battered mass, wrapt in smoke and in the flames of a fire, the but recent formidable battle-ship?

Her mainmast was broken off half-way up; her foremast and both her funnels had been shot away; the upper bridge and platforms had been literally wrenched off, and in their places there hung over the deck shapeless bunches of twisted iron; her port gunwale dipped almost into the water, and on her starboard side was visible a wide

[1] To have approached from the lee side was quite impossible, for there everything was enveloped in the smoke and flames of the conflagration.—*Author.*

belt of her red-coated side that should have been submerged, but which had become exposed because of her list to port; and through the numerous rents in her armour plating could be seen the fire still raging within her.

The "Buinii" rapidly steamed off, followed by a lively fire from the Japanese, who had been spectators of what had taken place.

Time about 5.30 p.m.—I recall what has been already said: that up to the last moment not one of us had any clear notion of the grievous wounds which the Admiral had received, and, therefore, on board the "Buinii" the first question was, "to which vessel should the Admiral be conveyed for the purpose of exercising the continued command of the Squadron?" But when Surgeon Peter Kudinoff came forward to render first aid to the Admiral, his condition was at once ascertained. Kudinoff, in fact, unhesitatingly announced that he had fears concerning the Admiral's life; inasmuch as a piece of his skull had been driven in, and hence any jolt might prove fatal, and in the prevailing state of the weather, with a fresh breeze and a steady swell, it would not be possible to convey him safely on board any vessel. Moreover, he could not stand, whilst his general condition, failure of strength, forgetfulness, moments of delirium, with brief intervals of consciousness, would render him altogether unfit for the performance of any duty.

From the engine casing, upon which I had first alighted, when I jumped on to the "Buinii," I passed to the bridge; but there I soon discovered that, owing to the trembling of my legs, I could not stand. And so I had to go and lie down again. But here I so interfered with everyone who was engaged in the working of the vessel that the commander counselled me in a friendly manner to take myself off somewhere and have bandages put on.

All this time we were fast catching up the Squadron, so the Flag-Captain decided that before he made any signal it would be necessary to seek the Admiral's orders. And this task he entrusted to me. Having made my way, with great difficulty, to the stern of the vessel, and descended the ladder, I looked into the Captain's cabin.

The Surgeon had just finished bandaging the Admiral's wounds, and he was lying motionless in a hammock. His eyes were half closed, but he was conscious.

Addressing him I asked whether he felt strong enough to continue to exercise the command of the Squadron, and on which vessel he would like to be taken?

Turning his head with difficulty towards me, he seemed for a while as though he were trying to recollect something.

At last he said incoherently: "No . . where could I? . . . you see yourself . . . the command . . . Nebogatoff . . ." These words were uttered in a husky tone, and then, with sudden animation, and with an unexpected outburst of energy, he added:

"Let the Squadron proceed! Vladivostók! Course N. 23° E.!" and then he again relapsed into a state of coma.

Having sent this answer to the Flag-Captain (I do not remember through whom, it may have been through Leontieff), I had the desire to go into the ward-room, but there was absolutely no space in it into which I could squeeze myself. Every compartment of the torpedo-boat, and even the whole of the upper deck, was full of men.

For before the "Buinii" had approached the "Suvóroff," she had taken on board more than 200 men at the point where the "Osliába" had foundered. And amongst these were wounded men, who, having had to swim in this state in the salt water, had been half choked in their struggle for life. These poor fellows, with their livid features, convulsively twitching with cramp or racked with distressing coughs and pains in their chests, produced on me an impression far worse than had the most severely wounded men whom I had already seen.

I therefore once more made my way to the upper deck, and got up on to a locker near the ladder communicating with the officers' quarters.

Some signals were now flying from the masts of the torpedo-boat, and I also noticed that the "Bezuprétchnii" and the "Baidóvoii," which were close to us, were conveying orders by semaphore.[1] We had now caught up the Squadron, and were steaming alongside the transports, which were covered both ahead and to starboard by our cruisers. About 30 cables' lengths[2] still further to starboard was our main body. The van-leader was the "Borodino." After her came the "Orel." I could not see the "Alexander."[3] Still further away in the same direction beneath the falling shades of evening, were dimly visible the silhouettes of the Japanese vessels, as they held a course parallel with that of our own vessels.

The flashes of their guns unceasingly glimmered along their line, indicating that the stubborn conflict was not yet over.

By my side I now saw one of the officers of the "Osliába," and I asked him what was the sort of rent that had caused that battle-ship to heel over?

He shook his finger somewhat deprecatingly, and, in a voice full of injury, jerkily exclaimed:

"What—how—it's a bitter memory! No luck! Only failure! Well, yes! Who can dispute it? They shot well. But had they not a good target? Was it all skill? Luck! Success! The devil take their success! Three shells one after the other, almost in the same place! Do you understand? All in the same place! All below the water-line, under the fore turret! Not a hole, but a gateway! A *troika*[4] could have driven through it! Of course we heeled over, became a submarine. Such a waterfall . . . of course the compartments[5] wouldn't work! No devil could have kept back the deluge!" Here he cried out

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[1] The "Bezuprétchnii" had been directed to go towards the "Nicholas," and to convey by semaphore the latest dispositions of the late Commander-in-Chief to the new one, *i.e.*, to Nebogatoff. The "Baidóvoi" had been sent towards the "Suvóroff" to take off the remainder of her complement. But she did not find the "Suvóroff."—*Author.*

[2] About three and two-fifth miles.—W.E.G.

[3] I now know that the "Alexander" had foundered about 5.30 p.m. *Author.*

[4] A sledge or a vehicle on wheels drawn by three horses abreast. —W.E.G.

[5] The "water-tight" compartments are here referred to.—W.E.G.

hysterically, and suddenly, covering his face with his hands, fell helplessly upon the deck.

About 7 p.m. there appeared on the course of our main body some of the enemy's torpedo-boats. But as soon as our cruisers had opened a vigorous fire upon them, they hurriedly sheered off.

"Have they not thrown over a floating mine on the course?" I thought, as I turned myself round on my locker, and vainly tried to make myself more comfortable.

"The 'Borodino'! Look, the 'Borodino'!" suddenly resounded alarmed exclamations on all sides.

Though I raised myself as rapidly as I could on to my elbows, it was too late, for where I had seen the "Borodino" there were now only lofty upheavals of white foam.

Time about 7.10 p.m.—The enemy's Squadron, after turning sharply to starboard, set an easterly course, leaving behind it a cloud of torpedo-boats. These enveloped us in a semi-circle, as they advanced, from the north, east, and south. Preparing for an attack from the rear, our cruisers (and we after them) gradually inclined to port, and finally steered almost due west, *i.e.*, towards the glow in the sky made by the setting sun (for having no compass near me I could not ascertain the precise bearing).

Time about 7.49 p.m.—I still saw those of our battle-ships that were behind steaming in disorder, but still keeping off with their fire the rushing host of the enemy's torpedo-boats.

(THIS WAS THE LAST ENTRY IN MY NOTEBOOK.)

I began to feel worse and worse. From loss of blood and from the inflammation arising from my yet unbandaged and dirt-begrimed wounds, I now experienced a sense of increasing weakness, with inclination to shivering and giddiness. I therefore went below to seek medical aid.

But what of the "Suvóroff"? Here is how a Japanese writer describes her last moments:—

"In the gloaming, whilst our cruisers were forcing the enemy's vessels northwards, there was seen the 'Suvóroff' afloat, but alone, and far away from the sphere of the battle. She had a strong list, and was wrapt in flame and smoke. Captain-Lieutenant Fuzimoto, in command of the torpedo-boat flotilla that was attached to our cruisers, immediately proceeded to attack her.

"This vessel (the 'Suvóroff'), which had been on fire from stem to stern, and which was still burning, which had received so many hits, which had been under the concentrated fire (in the strict sense of the word) of our entire fleet, which had by chance only one undamaged gun in her stern battery, nevertheless opened fire from it on us, thus evincing the determination of defending herself up to the last moment of her existence, so long as she could float on the surface of the water.

"At last, at 7 p.m., after two attacks of our torpedo-boats, she went to the bottom."

IN MEMORY OF THE "SUVÓROFF."

A PERPETUAL TRIBUTE TO THE FALLEN HEROES!

APPENDIX I.

TABLE OF THE RUSSIAN AND JAPANESE FORCES WHICH MET OFF TSU-SHIMA.

Commanders.

Russian.	*Japanese.*
C.-in-C. of the Squadron.	*C.-in-C. of the Fleet.*
Vice-Admiral Rodjestvenski.	Admiral Togo.
	Commanders of Squadrons.
	1st Squadron, Vice-Admiral Midzu.
	2nd Squadron, Vice-Admiral Kamimura.
	3rd Squadron, Vice-Admiral Kataoka.
Commanders of Divisions.	
Rear-Admiral Felkersahm.[1]	Vice-Admiral Dewa.
Rear-Admiral Enquist.	Vice-Admiral Uriu.
Captain of the First Rank Schein.	Rear-Admiral Togo (the younger)
	Junior Flag Officers.
	Rear-Admiral Yamada.
	Rear-Admiral Simamura.
	Rear-Admiral Taketomi.
	Rear-Admiral Ogura.
	Rear-Admiral Khosoya.
	Rear-Admiral Nasinova.

LIST OF VESSELS.

Main Body.

Russian.	*Japanese.*
1st Battle-ship Division.	*1st Battle-ship Squadron.*
"Kniáz Suvóroff."	"Mikasa."
"Emperor Alexander III."	"Shikishima."
"Borodino."	"Fuji."
"Orel."	"Asaki."
	"Kassuga."
2nd Battle-ship Division.	"Nishin."
"Osliába."	
"Sissoi Velikii."	*2nd Battle-ship Squadron.*
"Navarin."	"Idzumo."
"Admiral Nakhimoff."	"Yakumo."
	"Asama."
3rd Battle-ship Division.	"Adzuma."
"Emperor Nicholas I."	"Tokiwa."
"Seniávin."	"Iwate."
"Admiral Apraxin."	
"Admiral Ushakoff."	

[1] He died of sickness, contracted during the long voyage, two days before the battle.—W.E.G.

Cruisers.

Russian.	*Japanese.*
"Oleg."	*3rd Squadron (Cruiser).*
"Aurora."	
"Dimitri-Donskoi."	*1st Division.*
"Vladímir Monomakh."	"Itsukushima."
	"Matsushima."
	"Hashidate."
	"Chin-Yen."
	2nd Division.
	"Suma."
	"Chiboda," (?) "Chiyoda."
	"Idzumi."
	"Akitsusiu," (?) "Akitsushima."
	3rd Division.
	"Kasagi," (?) "Kasuga."
	"Chitose."
	"Otowa."
	"Niitaka."
	4th Division.
	"Naniwa."
	"Takachikho," (?) "Takachio."
Scouting Vessel.	"Tsushima."
"Svietlána" (light cruiser).	"Akashi."

Auxiliary Cruisers.

"Almáz."	16 vessels (names not given—
"Urál."	W.E.G.)

Light Cruisers, detailed for conjoint operations with Torpedo-boats (or as Covering Vessels and to ward off the enemy's Torpedo-boats).

Russian.	*Japanese.*
"Jemchug."	"Toiokhasi."
"Izumrud."	"Maiya."
	"Takao."
	"Chihaiya."
	"Tatsuta."
	"Odzi," (?) "Uji."
	"Yayeyama."
	"Chukai," (?) "Chiokai."
	"Yamato."
	"Tsukushi."

Torpedo-boat Destroyers and Torpedo-boats.

9 Destroyers (names not given —W.E.G.)	25 destroyers.
	12 torpedo-boats, 1st Class.
	55 torpedo-boats, 2nd Class.
	13 Torpedo-boats, 3rd Class.

THE PASSAGE OF RIVERS BY SMALL BODIES OF MOUNTED TROOPS.

By Captain E. N. MOZLEY, R.E.

(Continued from September JOURNAL, p. 1131, and Concluded.)

The second part of this article will discuss methods of swimming horses, which, in all such operations as we are describing (when bridges are not available), must be carried out. It is true that horse rafts may be built, and a photograph of one is shown; but they are very cumbrous and slow, take a lot of labour and material, are a little dangerous, and are not worth while making unless, owing to some special reason, horses cannot be swum. It is difficult to imagine such a reason, unless it were muddy banks and bottom, or loose ice. If such rafts are made it is of immense importance to have the piers two-and-a-half times as long as the roadway is wide, to avoid oscillation. The roadway cannot be less than 10 feet wide, to take a horse, and therefore the piers should be 25 feet long. It is also necessary to have great preponderance of buoyancy in the centre, *i.e.*, piers should be placed much closer towards the centre of the raft, or the platform will sag greatly. Bearing in mind these points, the raft will be built like those for bridging and general purposes. Light handrails should be erected, and vertical planks placed round the edge to discourage the horses from putting their feet over the edge of the platform. Men holding the horses' heads stand outside the handrail. Horses should be placed alternately head and tail, to equalise the weight on either side of the platform, and may have their nose-bags on. A light embarking ramp, without ribands, must be shipped on each journey. Such rafts should always be *towed* to and fro.

PART II.

It is unfortunate that the knowledge which accrues to the Army through each annual training is so little accessible. New methods are tried every year; some succeed, others fail. But so unsystematic at present is the publication of results that much of this valuable experience is lost.

Of course it is not necessary to read everything that is circulated. But it should be possible to know where to lay one's hand at once on the latest and, indeed, on complete information about any experimental work. This should be supplied by a department of technical intelligence. There would then be no lost arts of war, and a stricter comparison of methods would be insured.

The art of swimming horses is a case in point. It is not extensive; it is not difficult. And yet it has many methods, proved by experience, which are not universally known. It is these methods which mounted troops, who have little time and opportunity for practice, should be acquainted with, in order that time should not be wasted in discovering everything anew for themselves.

Swimming horses may be regarded more as a sport than in any other light. There are few greater pleasures than being towed across a river on a hot day hanging on to the tail of a horse and the art of coaxing an unwilling animal into and across a piece of water, calls for a good deal of horsemanship. Nor is it a dangerous pursuit. Horses are practically powerless for evil when in deep water, as they cannot get the sudden purchase necessary for a kick. The only way a horse can defeat the swimmer is by rearing and allowing itself to fall over backwards. Under these conditions the beginner will rightly leave go, and will come to no harm. Men are sometimes kicked on the head by a rearing horse in the water, but a blow given under such conditions is not likely to be serious. Out of the thousands of horses which the writer has seen in the water, he has only known one to drown. The horse, like all other animals, is a natural strong swimmer, and is said to be able to keep afloat for days. There is an erroneous idea (once incorporated in the Cavalry drill book) that horses must be *taught* to swim. Horses not only can swim, but exhibit, as a rule, little reluctance to do so. After they have been taken out of their depth once or twice alongside of a boat (which should be done before they are taken in "free"), it will usually be found that they will allow themselves to be ridden in and will swim where required, with a little encouragement.

There are two general methods of swimming horses. The first is by means of a boat, which is towed to and fro by a rope from *each* bank, the horses swimming along each side, while their riders sit in the boat and hold their horses by the headrope. The other method is swimming free. In the latter case the horses are ridden into the water, and when out of their depth the rider slips off and allows himself to be towed along, controlling the horse as necessary. A third method may perhaps be added, namely, driving horses into and across the water, riderless and uncontrolled, but for reasons which will be given later, this method cannot usually be carried out with advantage.

As regards details:—*First, Swimming with a Boat.*—As many as 16 horses have been swum at a journey, at Christchurch, but 8 or 10 is more usual. The boat used on the occasion mentioned was a 37-feet collapsible canvas boat in six sections. Generally the majority of the horses should be taken on the downstream side of the boat. The boat should, if possible, have a tow rope made fast to each end, and worked by a party on each bank. The use of the rope instead of oars is much to be preferred, for the following reasons:—

1. The tow rope method moves the boat a great deal quicker.
2. More horses can be swum at a time; horses, of course, cannot be swum where they are liable to get mixed up with the oars.
3. There is more accommodation in the boat than if there were oarsmen.
4. Oars frighten horses.
5. In a swift stream a rowed boat is much less under control than a towed boat, and it is very difficult to hit the right landing place, which may often be essential.

Of course, if the stream is very broad, and rope or wire is not available, the boat would have to be rowed. It is a mistake to suppose that horses get entangled in the rope, though horses sometimes get

their heads under and their legs over. The latter might be serious if wire had to be used. A tow rope should be made fast from the boat to both banks, in order that the return journey may be quickly performed. A boat for swimming horses should be as large as possible. Length and width are especially necessary, the former to accommodate as many horses as possible, the latter because at times, owing to the pull of the horses and the men leaning over the gunwales, there is a tendency to upset.

The stern should be as pointed as possible, as it has to lead through the water on the return journey; two boats with their sterns joined end to end serve this purpose well. The tow ropes should be made fast to the very ends of the boats, and where they will not carry anything away. It is never necessary suddenly to cast off the tow rope, and no provision need be made for this, except that a knife may be carried for use in an emergency.

The first thing to do is to get a cable across the river. This should be done by laying two cables in the boat, one in the bow and one in the stern. The end alone of the latter should be on shore, and may be made fast to a bollard or held by the towing party. The boat is then rowed across, the tow rope being paid out from the stern. If the tow ropes were paid out from the shore, there would be a heavy and increasing drag on the boat. The further bank having been reached, and the towing party for that side disembarked, the end of the second cable is taken on shore, and the boat is towed back by the tow rope already across, the second tow rope being paid out on the return journey. If more boats and cables are available (which will, of course, expedite the time of crossing), the other cables can all be taken across by the boat already connected to both banks, and afterwards joined to their respective boats.

Sir Howard Douglas describes the following ingenious method of getting a rope across a stream with a swift current:—

"Take a rope about twice as long as the river is wide; make fast a buoy to the middle, and coil the two ends of the rope in two row boats. Let the whole start from the shore at some distance higher than where the rope is to be stretched across and row to the middle of the river. When in the centre of the stream the buoy is thrown overboard, and the two boats are thereupon rowed as quickly as possible towards the two banks. If the operation be well executed, they will reach the points where the ends of the ropes are to be before the buoy has floated down as far. If instead of a buoy a third boat be used, which, by means of its oars, may impede the descent of the bight of the rope whilst the other two boats are making the shore, the operation will be facilitated."

If the current is swift (3 or 4 knots), each tow rope should be twice as long as the river is wide to allow for the curved path taken by the boat in crossing and for spare ends. 2-inch rope is much the best size. It should not float. In making the knots it is of the utmost importance to inspect each one. Sheet bends should be used: if time allows and the operation is important, the running ends should be seized to the standing parts. About ten men on the far bank, and eight on the near bank, are a minimum size for towing parties with a swift stream. The horses do not pull the boat forward much; for one that does so there will be another hanging back and retarding the boat's progress. After tying up their bridoons short, to prevent

their putting their feet through the reins, the horses are ready to go across. An officer should take charge of the boat, and be the sole occupant, besides the men in charge of horses.

In order that the troops may not get their feet wet, it is advisable to tell off several watermen, who should, if possible, have water-boots (boots of some sort they must have, in case the horses tread on their toes). These men will, if necessary, carry their comrades on board, and will pass the horses out to them. As this is the only difficult part of the operation, men fond of horses, and not afraid of them, should be chosen for the work. At first horses will shew a reluctance to get their feet wet, but encouragement, coupled with a few (gentle) reminders with sticks and pebbles, and aided by the example of the horses already alongside the boat, will soon overcome the scruples of the most unwilling steed. As soon as all the horses are *in the water* alongside or in rear, and the head ropes in the hands of the men in the boat, the officer in charge of the boat should at once blow his whistle as a signal to the party on the far bank to haul away, and the horses will start swimming easily. Men should be cautioned to sit down, otherwise they may upset the boat. A few horses may get alarmed, or try fancy swimming, such as the side stroke, but as they have no strength in the water, and cannot drown, the man should not be alarmed at his charger's anxious countenance, but should remember that the one rule is not to leave go of the head rope, till told to do so. He need not be afraid of pulling the horse's head; no harm can result from this. Care should be taken that the horses do not crowd each other; when a horse is swimming well it should have all the rope it likes, so long as it does not inconvenience its neighbours. Be careful that the horses on the upstream side of the boat do not get under it. Speak encouragingly to them; excitement and shouting are quite unnecessary. On reaching the far bank the headropes are let go, and the horses caught by another party of watermen, who hand them over to the squadron forming up, and assist the men out of the boat if necessary. The officer then whistles to start the return journey, and is brought back alone. By the time the boat is back a new batch of horses, saddles, and men should be ready. Saddlery and arms are put into the boat just before the horses are taken alongside. The arms may be slung. The towing parties besides having to haul, must see that the cable is neatly coiled up as the boat approaches, and that it pays out properly as the boat recedes.

If horses *alone* have to get across (without riders or saddles), they may be released half or three-fourths of the way across, *i.e.*, when they have no further temptation to return; and the boat towed back for more. Time will thus be saved. This must not be done unless the banks are sound on the far side for a good distance. Horses are easily caught on landing. They should be walked about, especially if there is a wind. They are very fond of rolling after a swim, especially in hot weather and on a sandy shore.

We will now turn to the second method of swimming horses, in which the rider takes his horse across by himself. In this case the importance of good landings on the farther bank are especially important. The writer cannot recommend either the horse being saddled or the rider being clothed during the operation, although he has tried both. It would be necessary where no boats to carry kits across were available. If the horse is saddled it is a great drag on him, and

must damage the equipment and harm the leather. It is unnecessary to dilate on the discomforts to the rider in getting his clothes and kit wet, and it would be almost impossible to keep his arms and ammunition dry. If the horse swims saddled, the girths should be tight, otherwise the saddle may slip back, which would be dangerous.

The bridoon reins should be shortened round the neck, by knotting them; the head rope, if carried, must be tied up. Thus equipped our rider should go boldly up to the water, getting a lead if possible. Some horses object to the first touch of the water, others go well, till they find themselves out of their depths, when they are seized with terror. In any case, ride them with confidence, talk to them, and get some one to throw a few pebbles at the horse (taking care not to hit *you*). The moment (but not before) the horse is out of his depth throw yourself off; the writer prefers the nearside on all occasions, but many recommend the downstream side. This is what the beginner does not care about doing, but the necessity for it is clear, if we consider the matter hydrostatically. If the rider keeps his seat, most of his body is out of the water, and therefore acts as a direct load on the horse; but if he is floating alongside, the water takes his weight and the horse no longer carries him, but only drags him through the water, and the man can assist by swimming with his legs. The hand nearest the horse may grip the mane (and for this purpose it is most important that all Army horses should, if hogged, still retain a fair sized lock a little way from the withers). The further hand should catch hold of the cheekpiece of the head-collar. The horse can be guided by pushing or pulling the headcollar with his hand, the rider's head being close to the horse's, and so giving him confidence. Talk to him as much as you can. It will be found that, while it is quite easy to prevent the horse turning *away* from you by pulling the cheekpiece (as has been said before, a horse's power in the water is greatly reduced), yet it is often impossible to prevent him turning *towards* you. Some horses will allow the further bridoon to be pulled, and this may be done with the hand nearer the horse, but others will object to this and show a tendency to rear. In such case it is better, if the horse begins to turn towards you, to pull him right round or three-fourths round the circle and back into the right direction. Sometimes indeed a raw swimmer must be taken across a river in a series of loops, which generally affords much amusement to the onlookers. Splashing horses' faces to guide them, though sometimes recommended, is practically useless. The rider should get accustomed to the different actions of horses when swimming. The best swimmers keep low in the water with their head alone out, and their backbone horizontal; but many get most of their neck out, and some have their backbone very much inclined (this latter is often mistaken by beginners for a tendency to rear). Both these are faulty actions. The rider need have no fear of being kicked in the water unless the horse rears. If he does this it is generally because you are asking him to go a way he does not want to. In such a case break away from him a little, still, however, keeping hold of the rein, and get somewhat in front of him; this may keep his head down. It is only the most determined rearer from whom one should cut oneself adrift; on service such a horse should be sent to swim by boat, or taken over with another horse, a method which will be described below. If your horse intends going across, you may indulge in the luxury of hanging on by the tail; it is easy to drop back to

the tail, and you cannot be kicked, but you must look out for his getting into shallow water, and be up alongside him before then. This requires a little knack, but a good pull at the tail will get you up to the front of the longest-backed horse. Whichever way you swim, be ready to throw your leg over his back the moment he feels bottom, and you will ride out triumphantly; otherwise, you will be left ignominiously walking the pebbles and trying to mount a very slippery horse.

We tried in 1904 to take two horses across at a time, and found it has great advantages. It is more difficult to get two horses to enter the water than one, and they should have a lead. But once out of their depth they are easily managed, more so indeed than a single horse, as you can play them off against each other. Drop off *between* the horses and catch hold of the inner cheekpiece of each horse. If either is refractory, by placing your feet against one of the horses' backs and lying half across the other, you can obtain a good purchase and guide them where you like. This method has obvious advantage in the case of a squadron, only a few of whose men are swimmers, as these can take the horses across two at a time.

As regards the third method of passing horses across a stream, viz., by persuading them to go in *en masse* and unaccompanied, the experience the writer has of this method does not lead him to recommend it. At the same time it has been successfully tried, notably by the Bengal Lancers in some peace practice, and by the 13th Hussars in the South African War. The horses are, however, generally unwilling to go, and a good many break loose on both banks, the net result being a considerable delay. Possibly, if well led by a few good men and horses (and this a *sine quâ non*), and if the stream of horses were kept up *thickly*, the manœuvre would be successful. The best place to carry it out would be where there was but one good entry into the river, in fact, a drift. If the stream is strong, it is very important that there should be plenty of choice of landing on the other side. Sounding "feed away," and shouting on the far bank is generally recommended. In the former case, needless to say, the horses should actually be fed on arrival. A combination of free swimming with and without riders has proved a success, the swimmers of the unit taking the horses out some way until they are satisfactorily heading for the further bank, and then leaving them and returning for more.

A few suggestions may be made as to the organisation of such a crossing. Let us suppose that boats are available. A party should be sent on ahead to launch the boats, and to get the tow ropes ready for boat-swimming. The place selected for this should be sufficiently upstream of the place where free swimming is to be conducted, to avoid the possibility of the tow rope getting in the way of the free swimmers. When the troops reach the bank they may be divided into free and boat swimmers, the former, of course, including all the men who can swim. Non-swimmers are not usually allowed into the water with their horses in peace practice, but the risk would be small, except with a bad horse, and the prohibition would be unnecessary on service. The organisation of the boat-swimming party is quite simple and straightforward, the horses being offsaddled, and the saddles taken into the boat, followed by the men and horses. Have everything ready each time the boat returns. A little care is necessary to get across the clothes and saddlery of the free swimmers, or bad

language, and, perhaps, sore backs from dirty blankets, will result; the men should be ordered to form up in line, offsaddle, undress, and tie up their clothes and saddlery together with the surcingle. Unless there is an objection involved in taking off the blanket, owing to delay, that article is well suited to carry the whole. Saddle-boats (or rafts) are required in about the proportion of one 18 feet boat per 24 horses (a quadripartite 18 feet canvas boat will carry 8 double sets of harness, or 20 to 30 sets of saddlery). These boats take across the saddlery and kit, and lay them in the same order on the far bank. Meanwhile, the riders advance in line into the water, and constant reinforcements should be sent in, so as to keep the column as thick as possible, thus avoiding fresh starts. Depth of column rather than width of line is what is required. Guard boats up and down stream should always be detailed at peace practice (1 per 50 horses), and also on service, if available. They should be chiefly up stream (so as to be in position to give assistance quickly), and should carry a spare man with a life line. In practice, if the horses are going badly, take care that there are not more in the water at one time than the guard boats can deal with. An officer and two non-commissioned officers are necessary on each bank, as "Masters of Ceremonies," for both boat swimming and free swimming parties. No noise should be allowed. Horse rubbers should be always taken by troops practising, and heels should be dried immediately after the completion of the practice; if the water is tidal, and therefore salt, horses with cracked heels should not be swum. Much trouble will be met with if this precaution is neglected.

The following are a few statistics as to the time taken in crossing a river with horses:—

River and Width.	No. of Horses taken across	No. of boats employed.	Time.	Whether Saddles or Numnahs taken in horse boats.	Remarks.
Main, 200 yds. ...	240	3	3½ hrs.	Saddles	—
Medway, 160 yds.	50	2	¼ hr.	No saddles	3 knots
Kabul, 100 yds. ...	50	—	20 min	No saddles	4 knots; free; swimming; time includes undressing
Estuary at Christchurch, 150 yds	56	1	1 hr.	Saddles	4 knots
Aldershot Swimming pond, 70yds.	260	3	39 min.	No saddles	Still water
	180	3	38 „	72 saddles	
	210	3	33 „	Numnahs	
„ 50 yds.	100	2	30 „	Saddles	Cav. drill, 1904

We may estimate, therefore, that under the following conditions:—

a. Horse swum by boat; saddlery taken across.

b. Rate of current, 2 to 4 knots.

Each boat will take across every hour a number of horses ranging from 20 for a 200 yard river, to 100 for a 50 yard stream.

The numerical rate of crossing when swimming free is only limited by the length of banks available.

WARS OF THE TURKS WITH THE GERMANS.

By Lieut.-General F. H. TYRRELL, late Indian Army.

(Continued from September JOURNAL, p. 1142.)

THE SECOND WAR.

This war lasted fourteen years. It was begun without a purpose and ended without result. The conduct of the leaders and the behaviour of the troops reflected no credit upon either of the belligerents. The operations were chiefly confined to the siege of frontier fortresses and the devastation of the unfortunate country which was the theatre of war. There was only one notable battle fought, in which the victorious Turks gained but little glory, while the vanquished Germans owed their defeat more to their own mistakes than to any superiority of their enemies.

The truce expired in 1592 without an attempt having been made to renew it, apparently from negligence, for neither the Emperor Rodolph nor the Sultan Murad desired war. But the Pasha of Buda seized the occasion to make a great foray into German Hungary, whence he was returning with much spoil when he fell into an ambush laid for him by the Germans and lost all his captives and booty and many of his men. He suffered the usual fate of a defeated Turkish General, being strangled by order of the Sultan on the pretext that he had broken the peace without orders. But the flames of war, once rekindled, could not be easily extinguished, for neither side would be the first to make proposals to the other. The new Pasha of Buda in 1593 renewed the enterprise of his predecessor; but he was met and defeated by the Germans near Stuhlweissenburg. The Janissaries were so dispirited by this defeat that when the Pasha summoned them to march to the relief of the frontier fortress of Filek, which the Germans had besieged, they refused to quit their garrisons, and Filek was taken by the enemy, who then invaded and ravaged the Turkish province.

Hasan Pasha of Bosnia attacked the German post of Sissek on the Unna, but was defeated and drowned in the river when attempting to escape. The main army, under Sinan Pasha, avenged his defeat by driving the Germans from Sissek. During the winter the Emperor Rudolph used great diligence in collecting and organising an Imperial Army, which commenced the campaign of 1594 on two lines of operation under command of the Emperor's two brothers. The Archduke Maximilian drove the Turks back out of Croatia; the Archduke Matthias laid siege to Gran, which the Turkish garrison obstinately defended, and Sinan Pasha, coming up with the grand army, forced the Archduke to raise the siege and retire. Sinan Pasha then formed the siege of Raab, and Matthias advanced to interrupt his operations; but Sinan surprised the German camp, and routed their army, capturing all their guns and baggage. The Governor of Raab, Count Hardegg, seeing no hope of relief, surrendered the city on terms. He was tried

at Vienna on the charge of having delivered up a tenable fortress, provisioned for one year, and was beheaded along with several of his officers, *pour encourager les autres.*

Sinan Pasha's army ravaged the country, and his Crim Tartars raided up to the walls of Vienna. The Akinji, or Sackmen, had now almost entirely disappeared from the Turkish military system, for as they maintained themselves solely by plunder, the long periods of peace had proved fatal to them. Their place with the Turkish armies was now taken by the Crim Tartars, who occupied the Crimea and all the northern and western shores of the Black Sea beyond the mouth of the Danube, a region to which the German geographers of the day gave the name of Kleine Tartarei to distinguish it from Great Tartary in Central Asia. After the fall of the sister Khanates of Kazan and Astrachan before the Russian arms, this remnant of the Golden Horde put itself under the protection of the Osmanli Sultan, and furnished myriads of horsemen, who performed the same services for the Turkish armies as the Cossacks did for the Poles and Russians. Fifty thousand of them had now come through Valachia and Transylvania to join Sinan Pasha's army, and they caused great trouble to the Germans by their ubiquity and audacity. They swam the Danube and other broad rivers on horseback, so that the Germans were nowhere safe from their attacks, except within the walls of fortified castles and towns.

The Emperor occupied the winter in recruiting and re-organising his army, and it was augmented by swarms of noble knights errant, and soldiers of fortune from all the countries of Europe, who hastened to Vienna to win their spurs or add to their laurels by serving the Emperor against the common enemy of Christendom. In the spring of 1595 the Archduke Matthias took the field at the head of a numerous and well-appointed army, and again laid siege to Gran. At the same time the Hungarians generally rose in rebellion against the Turks, wearied of their tyrannical rule and irritated by the depredations of the Tartars. The Prince of Transylvania, Sigismund Bathory, renounced his allegiance to the Sultan and declared for the Emperor. The Turks had to abandon the open country and take refuge in the towns; and Sinan Pasha, who was about to march with the Grand Army once more to the relief of Gran, had to turn aside to engage the Prince of Transylvania, who menaced his communications with Belgrade.

Bathory was an able leader and a skilful General, and kept the Pasha fully occupied; and Gran capitulated after a long and creditable defence. The Archduke advanced into Turkish Hungary up to the walls of Buda, and crossing the Danube took the town of Hatvan by storm, where his soldiers committed the most horrid cruelties on the Turkish inhabitants, ripping up women, spitting infants on pikes, and massacring every Mussulman without distinction of sex or age. The Walloon soldiers particularly distinguished themselves by their barbarity, as they did afterwards at Magdeburg and other Protestant towns captured during the Thirty Years' War. Their captains endeavoured to excuse their conduct by saying that their atrocities were only reprisals for similar deeds perpetrated by the Turks on Christians.

The invasion of Hungary by the Germans, and the revolt of the Christian populations, excited rage and consternation at Constantinople. Sultan Muhammad III., who had succeeded the weak and indolent Murad III., was equally timid and unwarlike; but he dared

not withstand the clamour of his subjects, and reluctantly put himself at the head of the Grand Army, which mustered 200,000 men, and was assembled at Buda. Instead of seeking the Christian Army in the field, the Sultan marched into Northern Hungary and besieged the town of Erlau.

The Archduke Maximilian, who had relieved his brother Matthias in the command of the Imperial Army, called in all his detachments, and marched to relieve Erlau at the head of 32,000 horse and 28,000 foot. But Erlau had already fallen, and the Turkish Army, numbering over 100,000, was advancing to meet him. The two forces came face to face on the marshy plain of Cerestes, through which the stream called Ciria flowed.

There was some severe fighting for two days between the advanced guards, and the two armies lay on their arms during the night. On the third day both formed in order of battle, and the Turks opened the ball, making a general attack along the whole line. They were everywhere repulsed, and the Germans in their turn advanced to the attack, "coming on through the marshes," in the words of the Turkish historian Naima, "like an immense herd of swine." The Toprakli (Territorial) Cavalry of Asia, who formed the right wing, were seized with a panic, and fled shamefully from the field, and their panic communicated itself to the rest of the Army, which gave way at all points, and the Germans entered the Turkish camp. They penetrated to the Imperial pavilions, from which the Sultan had fled, but his companies of household troops opposed a most desperate resistance, and checked the German advance. Meanwhile, the Christian soldiers had quitted their ranks and dispersed to plunder the Turkish tents; and the Turks, finding that they were not pursued, rallied and returned to the fight. And at this critical moment the renegade Jeghálazada (Cicala's son) brought up the reserve cavalry, and at its head made a desperate charge on the scattered and disordered Germans. These were so dispersed in the search for plunder that they could not reform, and many of their best officers fell in the vain attempt to rally their men. It was now the turn of the Christians to be panic-struck, and their whole army fled in confusion, pursued by the Turkish cavalry. Their camp was taken with all their stores and baggage, and ninety-six pieces of cannon. Their loss in killed, wounded, and missing is put down at the incredible number of 50,000 men; the Archduke's Army was practically annihilated. The losses of the Turks are not stated, but they must have been heavy in the three days' fighting.

This battle was called by the Turks the Battle of Erlau, and by the Christians the Battle of Cerestes. Its conduct reflected little credit on the leaders or the troops on either side; but it had the effect of freeing Turkish Hungary from the German invasion, and from any fear of its renewal for some time to come. The Sultan attributed the victory to the bravery of Jeghalazada Pasha, took him into favour, made him Grand Vazir, and committed the command of the army to his charge.

This renegade had a curious history: his father, Count Cicala, an Italian nobleman, had captured a Turkish lady in a raid, and becoming enamoured of her, made her his wife. The offspring of their union was a son, who in his first essay of arms was captured by the Turks and was easily persuaded to adopt the nationality and the religion of his mother. His rash courage soon gained him advancement, but his wisdom was not equal to his valour. He declared all

the feudal cavalry of Anatolia, who had set the example of flight to the rest of the army, to be Firmánli (outlawed); their lands confiscate, and their lives forfeit to the Sultan; and he actually put to death those on whom he could lay his hands. Consequently, they deserted *en masse*, and made the best of their way back to their own country, where they raised the standard of revolt, and resisted all attempts to dispossess them of their fiefs. The state of rebellion thus engendered became chronic in Asia Minor, and endured for fifty years, paralysing a great part of the resources of the Turkish Empire.

Sultan Muhammad was quite satisfied with what he had seen of war and returned to Constantinople to boast of his victory. The war went on for two years more in a desultory fashion; the Emperor was employed in collecting a fresh army, a task in which he was much hampered and hindered by want of money; and the Turks were distracted by the rebellion in Asia Minor, and the revolt of the Hungarians and Transylvanians; and were also in want of funds to carry on the war.

But in the spring of 1598, a large German Army was again in the field under the command of the Archduke Maximilian, and even before it was set in motion the strong fortress of Raab, which had been all this time in the hands of the Turks, was recovered by a fortunate accident. Some German prisoners escaped from Raab, and reported to the Governor of Comorn that the garrison of Raab was weak in numbers and kept negligent watch. He marched with his garrison, and taking advantage of a moonless night arrived unperceived at Raab and blew one of the gates in with a petard. The Turks, though taken by surprise, fought desperately, even their women defending their houses by hurling missiles upon the German troops; but they were all put to the sword, and the heads of two Pashas, who were among the killed, were sent to the Emperor Rodolph at Prague as trophies of the victory. The German Army now advanced and laid siege to Stuhlweissenburg, which delayed the Archduke a long time before its walls; but it was finally captured, and Gran being also in the hands of the Germans, the way to Buda lay open to them. But the summer was already spent, and though the Archduke laid siege to Buda and forced the Turks to retire from the town into the citadel, the approach of winter compelled him to retire into winter quarters.

Next year (1599) he renewed his enterprise, captured Pesth by surprise, and laid siege to Buda. The Turks assembled a large army for its relief under the command of Hasan Pasha, an able and active commander; as he was confident of the ability of Buda to hold out, he marched to attempt the recovery of Stuhlweissenburg. The walls were breached in several places, and the Governor, Count Isolani, seeing that it was impossible to hold out against so mighty a force, offered to deliver up the city on condition of the garrison being allowed to march out with the honours of war, and to depart free and unharmed. Hasan Pasha granted these terms, and hostilities were suspended, when the German soldiers on guard at the breaches and on the ramparts, fearing to be belated in their preparations for departure, quitted their posts without orders. The Turks and Tartars perceiving this climbed the breaches and scaled the walls and swarmed into the town, where they commenced a general massacre of the garrison, and the inhabitants, not sparing one of them, after which they sacked the town. Hasan Pasha then led the army to Pesth, and laid siege to it, while the German Army was besieging Buda on

the other bank of the river; but neither side tempted an encounter in the field, but rather avoided it; and later on both armies retired simultaneously into winter quarters within their own territories, for the devastated country afforded no provisions.

A complete change in the situation now took place, caused by the Jesuit-ridden policy of the Court of Vienna, which commenced a persecution of the Protestants who were numerous among the Magyars, both in German and Turkish Hungary. This caused a general defection of the Hungarians and Transylvanians from the cause of the German Emperor. Sigismund Bathory's victories over the Turks had earned his election to the throne of Poland, and the Transylvanians had elected as his successor Stephen Botchkai, who was a Protestant. He declared himself a vassal of the Sultan, attacked the Germans, and made himself master of Northern Hungary. The attempt at the forced conversion of Protestants to Catholicism converted the Magyars from the allies into the enemies of Austria, and paralysed the action of the German Armies. In 1600 Hasan Pasha led the Turkish host again into Hungary and marched on Pesth. The Governor was terrified by the reports of the strength and numbers of the enemy, and abandoned the city, blowing up the fortifications. As he was retreating he met a strong reinforcement of German troops coming to his assistance, but having destroyed his defences he could not re-occupy the place, and the Turks took possession of it.

Hasan Pasha then marched on Gran and laid siege to it, but was unable to take it. After several assaults had been repulsed with great loss to the Turks, the Janissaries flatly refused to assail the breaches again, and the Pasha was obliged to raise the siege and retire into winter quarters.

The Emperor could no longer put an army into the field, for his treasury was empty and he had no more money to pay his mercenary troops. Several towns and castles were delivered up to the Turks for a money payment by the starving mercenaries, to whom their garrison had been confided.

The French and Walloon soldiers in garrison at Pappa offered to surrender the town to the Turks at Stuhlweissenburg for a certain sum of money. The bargain was struck and half the money demanded had already been paid over, when the Germans found out what was going on and despatched a strong force to seize Pappa and capture the traitors. The mercenaries defended themselves desperately, but the Turks failed to come to their assistance. The town was captured, and all of the mutineers who were not slain in the fighting were put to death with horrible tortures, their captors vying with each other as to who could invent the most ingenious torments for the wretches who could conspire to hand over a Christian fortress to the Turks. Wholesale executions for mutiny and desertion decimated the Imperial Army, and the Emperor was most anxious for peace. So were the Turks, but they would not listen to any proposal as long as Gran remained in the hands of the Christians, for it was a cardinal maxim of their policy that any place where the Azan, or call to prayer, had been regularly said, was Dárul Islam, and must never be allowed to remain in the hands of unbelievers. Accordingly, Sirdar Pasha, at the head of the Turkish Grand Army, laid siege to Gran, and after severe fighting captured the lower town and drove the garrison into the citadel. The Turks pushed on the siege with great vigour, and there was no force available to come to the relief of the besieged; but the Governor, Count

Dampier,[1] was resolved to hold out, hoping that the Turkish soldiery would get tired of the siege and refuse to continue it as they had done before. But the captains and soldiers of the garrison despaired of being able to defend it, and they placed the Governor in arrest and opened negotiations with the Turks. The Pasha was only too glad to get possession of the place on any terms, and it was settled that the garrison should march out with arms and baggage and the honours of war, leaving the guns and military stores to the Turks. The mutineers filed out of the fortress in presence of the Turkish army, with "ensigns frilled up and fire in their matches," and marched to Comorn, where their officers were arrested and thrown into prison by the German commander. The ringleaders were brought to trial for mutiny and were sentenced to have their tongues torn out, their right hands cut off and nailed to the gallows, and to be afterwards hanged or beheaded; but the sentences were commuted to simple beheading.

The capture of Gran by the Turks removed the last obstacle to the conclusion of peace, for which both sides were sincerely anxious. A treaty was signed at Sitvatorok, in Hungary, in 1606, concluding a truce for twenty years on the basis of *uti possidetis*, which was some advantage to the Turks, for it confirmed them in the possession of Erlau; otherwise there was no change. But the Sultan renounced all claim to tribute on account of German Hungary, and conceded the title of Emperor to the ruler of Germany. The Hungarian rebels and the Crim Tartars were included in the peace, as well as the Prince of Transylvania, who was to remain tributary to the Sultan.

This peace remained unbroken for fifty years, being renewed by the Emperor Ferdinand II. and Sultan Murad IV. The Ottoman Empire had fallen into a state of anarchy which appeared to contemporaries to be incurable, "groaning," in the words of Knolles, "under the insolence of lazie slaves." The Sipahis and Janissaries usurped the chief authority and set up and pulled down Sultans and Vazirs at their pleasure. These endeavoured to free themselves from the tyranny of the soldiery by setting one corps of the Standing Army against another; and they were so successful in this sinister policy that they created a furious feud between the Sipahis and the Janissaries which sometimes deluged the streets of Constantinople with blood, and broke out even in the face of the enemy, as we shall have occasion to relate hereafter. The chronic state of rebellion continued in Asia Minor, and the Turkish arms were worsted in conflicts with the Persians, the Poles, and the Venetians. The Emperor and Princes of Germany were meantime fully occupied with the Thirty Years' War—a golden opportunity, had the Turks only been able to take advantage of it. But the occasion passed away, and when war next broke out between the German and the Turk the advantage in military science and discipline had definitely passed to the side of the former.

The Third War.

This war lasted two years, and though the Turks were beaten in the field, they were gainers by the war, having succeeded in acquiring

[1] Count Dampier's regiment of Cuirassiers was one of the first regiments to be raised for the Emperor's service, and still has its place in the Austrian Army List, as the present Ninth Regiment of Dragoons.

possession of two cities and districts that had belonged to German Hungary; but this was almost their last territorial acquisition in Europe. The tide was already on the turn.

The Ottoman Empire was lifted from the slough of anarchy into which it had sunk by the appointment of Muhammad Kuprili as Grand Vazir to Sultan Muhammad IV. This Sultan, like his predecessors, troubled himself little about war or about the affairs of State, but he had the good fortune to select as his chief Minister an able and at the same time an honest man—a rare combination of qualities among the Turks. Their union in the character of this Vazir produced a marvellous change in the Ottoman administration. Muhammad Kuprili restored tranquility to the country, order to the finances, and discipline to the Army. He had accurate musters of the troops taken, and 3,000 Sipahis and 7,000 Janissaries who failed to answer to the roll-call had their names struck off the lists. He succeeded in quelling the chronic state of rebellion in Asia Minor by a system of severity tempered by justice. The Ottoman Empire was once more in a flourishing condition, and the old Turkish spirit of war and lust of conquest was revived. The duty of the Holy War was preached in the mosques, and the prospect of the conquest of infidel Europe discussed in the bazaars. An occasion was not long wanting. The Prince of Transylvania, George Rakockzy, owed arrears of tribute to the Porte. His predecessors had faithfully kept their engagements; and when Bethlem Gabor, the Protestant Prince of Transylvania, appeared before the walls of Vienna as the champion of the Reformed Faith, many Turks served in his army as volunteers. But the weakness of the Porte had tempted the Transylvanian Princes to withhold the stipulated tribute, and there was a strong German party among their subjects. "The inhabitants of Transylvania," says the Turkish chronicler, Avliya Effendi, "are Saxons and Siklav (Sclaves); the latter are well affected to the Imperial (Ottoman) Government, but the former are most obstinate infidels." The Prince, pressed by Kuprili for an amount which he was unable to pay, appealed to the Emperor of Germany and incited the Hungarians to revolt against their Turkish rulers. The Magyars were always divided in their allegiance between the Emperor and the Sultan. Turks and Germans were equally obnoxious to them, and they were really more akin by blood and language to the former than to the latter; but the bond of religion was the strongest tie in politics in those days, and the faith of the Cross attracted them to their western neighbours and masters. However, those among them who were Protestants preferred the rule of an infidel Sultan to that of a Popish Emperor. The Jesuit-ridden Cabinet of Vienna cruelly persecuted the Reformed Church in German Hungary, and even made interest with the Pasha of Buda to induce him to persecute the Protestant Magyars who were subjects of the Turks; but the Pasha refused to depart from the policy of treating all sects of Christians with the same contemptuous toleration. But their exclusion from military service and deprivation of civil rights under the Mussulman despotism was intensely galling to the high-spirited Magyars, and the German Emperor having promised his support, and the revival of the Turkish power being as yet not apprehended, they listened to the overtures of Rakockzy and rose in insurrection against their Turkish oppressors.

The Pasha of Buda marched against the rebels, but was defeated. He was therefore disgraced, and Seidi Ahmad Pasha was appointed

in his room. The new Viceroy invaded Transylvania and gave battle, in the words of the Turkish chronicler, Avliya Effendi, "to the detested Rakockzy's army." After describing the total defeat of the Christians, he goes on to say: "The white bodies of the infidels were strewed upon the white snow, and the carriages, cannon, and tents were sent to Constantinople, where, however, no thanks were voted to Seidi Pasha for the victory, nor was even a 'Well done!' said on the occasion, though it was a victory not less brilliant than that of Erlau by Muhammad III., for Seidi Pasha had no more than eleven thousand men opposed to a hundred and sixty thousand infidels, now inhabitants of hell."

A second battle was fought at Koljovar, in which Rakockzy and his followers were again routed by the Turks, and he himself mortally wounded. "He expired," says the Turkish historian, "calling out: 'Receive me, O Jesus!' Jesus, however, would not receive him, and he was seized by the angel Azrael. Seidi Pasha carried an immense booty with several thousand heads to Constantinople."

The Sultan appointed a nobleman named Michael Apaffy to be Prince of Transylvania, but the rebels, still unsubdued and undaunted by their defeats, set up a rival candidate in the person of one Kemeny, and the Emperor of Germany promised to support him. The Grand Vazir, Muhammad Kuprili, put himself at the head of the Turkish army, and in the spring of 1659 invaded Transylvania to put an end to the rebellion; but he had hardly crossed the borders when he received an Imperial Khatt-i-Sharif informing him of the revolt of Kara Husain Pasha in Asia Minor, and recalling him to face this new and more pressing danger. "Well done, Kara Husain!" exclaimed Kuprili, "to come at this moment to the aid of the Hungarian infidel; may thy end be fortunate!" He set out for Anatolia, leaving Seidi Pasha of Buda with an army of seventy sanjáks (standards) of cavalry and twenty regiments of Janissaries and Topjis (infantry and artillery) to deal with the rebels. The latter, ill armed and undisciplined, could not maintain the contest long; they were everywhere beaten by the Turks. Kemeny was killed in battle, and the Turks' candidate was established as Prince of Transylvania. Seidi Pasha carried off 100,000 of the rebels and their families as slaves to fill the harems of Constantinople and the row-benches of the Turkish war-gallies.

The Emperor of Germany had failed to come to the support of the Christian insurgents; but he had encouraged and countenanced the revolt, and war was declared against him by the Porte. Muhammad Kuprili had died and had been succeeded as Grand Vazir by his son, Ahmad Kuprilizáda, called by the Turks "Fázil," or "The Accomplished," from his great learning and wisdom and his gracious manners. He equalled his father in his love of justice, and surpassed him in clemency and generosity. It is related of him that he ordered the execution of eleven Janissaries, who, returning to the city from a country *buza-khána* (beer-house) in a state of intoxication, had murdered a Greek whom they met on the road. When the Turks murmured against the infliction of the death penalty on eleven Mussulmans for the sake of one Christian, the Vazir declared that if the Mussulmans had been one hundred and eleven instead of eleven he would have put them all to death, for he was resolved that all the subjects of the Sultan, whatever their creed or race, should have equal justice and protection; but he was himself a faithful follower of the Prophet, and his chief aim and object was the extension of the dominion

of Islam and the resumption of the career of Turkish conquest, which had been interrupted now for a century. The countenance afforded to the Transylvanian rebels now gave him the opportunity which he eagerly desired, and in the spring of 1663 all the forces of the Empire were assembled once more in the Rumelian plains, and the horse-tails were planted to the north-west of the Imperial pavilion, indicating the direction of Hungary. The Sultan Muhammad IV. accompanied the Vazir as far as Adrianople. The army mustered 120,000 men, with 120 field pieces and 12 heavy siege guns. In its train were 60,000 camels and 10,000 mules.

The German Emperor had not been able to render any effectual aid to the Transylvanian Christians. The assembly of an Imperialist army on the eastern frontier of the Empire was an operation that required much time; but now a large force had been collected and its ranks were swelled by the accession of many noble volunteers from all the countries of Christendom, who had flocked to Hungary on the news of a Turkish war. Amongst them were 6,000 French Chevaliers and Gens d'armes, who formed a formidable body of heavy cavalry, under the command of the Count de Coligny and the Duc de la Feuillade, whose name the Turks transmuted into Foladi, or "the man of Steel" (folad being the Turkish for steel), from the cuirasses which he and his men wore. The army was commanded by Count Raymond de Montecuculli, who had gained his laurels in the Thirty Years' War, and was accounted one of the best tacticians of his time,[1] and was the author of a book upon the art of war, which long enjoyed a high reputation.

The Germans had already commenced operations by investing the Turkish frontier fortresses, when the approach of the Grand Vazir with the Turkish Army caused Montecuculli to fall back and concentrate his forces. The spell of Turkish victory was yet unbroken, and the great superiority of the enemy in numbers made the Imperialist General cautious of engaging him in the open field. Ahmad Kuprili first marched upon the town of Varasdin, which soon surrendered to him. He then laid siege to Neuhausel, which also capitulated. Meanwhile the Turkish and Tartar cavalry had spread themselves over the country, ravaging it almost up to the walls of Vienna. But the short summer had been consumed in the two sieges, and the Grand Vazir retired into winter quarters. Next spring he took the field again, purposing to reduce Raab and Comorn, and then to march on Vienna; but the reassembly of the army from many distant parts of the Empire took a long time, and the season was well advanced before he commenced operations. He found Montecuculli's army on the left bank of the Raab to prevent his passing the river. After several unsuccessful attempts to cross, he marched up the right bank, Montecuculli marching parallel to him along the left bank. When the Vazir came to a place where the river was fordable, and a re-entering bend of the stream favoured his operation, he attempted to force the passage near the monastery of St. Gothard, which gave its name to the famous battle fought on the 1st August, 1664. This battle is described in great detail by Von Hammer, as being the turning point in the wars between the

[1] He wrote a treatise on the art of fighting the Turks, which was considered a separate branch of military science, their formations and tactics being quite different to those of European Armies. It is entitled, "Applicazione degli Aforismi dell' Arte Bellica all guerra possibile col Tûreo in Ungheria."

Germans and the Turks. The former had now a Standing Army of Regular troops, superior to the Sipahis and Janissaries in discipline, drill, and manœuvring power, as well as in armament and in the mobility of their field artillery and the rapidity of their fire. The Vazir was completely out-generalled by Montecuculli and his troops were out-manœuvred by the Germans. The Turks fought most gallantly, inspired by their confidence in the fortune of the Vazir and encouraged by his example; but neither their courage nor their numbers could prevail against superior skill and discipline. The Janissaries who had captured the village of Moggersdorff were cut off and the village set on fire. They refused to surrender and perished in the flames; but they sacrificed their lives in vain. The Turkish horse was unable to withstand the shock of the German cavalry. The Janissaries, with no arms besides their matchlock muskets but their sabres and yataghans, were ridden over and cut down by De la Feuillade's steel-clad horsemen. The river prevented the co-operation of the divisions of the Turkish army, and those who had already crossed the Raab were either slain or driven into the water and drowned. Their loss was computed at 10,000 men, and they lost 15 guns and 40 standards. The Vazir retreated to Stuhlweissenburg, where he rallied his dispirited army, but he was too much disheartened himself to try the fortune of another battle. He sent proposals of peace to the Emperor, who, in spite of the success of his arms, was anxious to put an end to the war. The Vazir dictated his terms as if he had been the victor, and the Emperor accepted them. The towns of Neuhausel and Varasdin, with the districts round them, were ceded to the Turks, and their nominee, Michael Apaffy, was recognised as Prince of Transylvania. This treaty was signed at Basvar, in Hungary, and it stipulated that the peace between the two Empires should endure for twenty years.

Ahmad Kuprili formed the towns of Neuhausel and Varasdin, with their surrounding districts, into two new provinces of Turkish Hungary, making the total number, along with the three old provinces, up to five. The province of Neuhausel, which the Turks called Kizkuivar, was divided into 5 Sanjaks; that of Varasdin into 4. But these new provinces were never colonised by Turks; the tide of Ottoman migration had ceased to flow.

The energetic Vazir now turned his attention to Crete, where the city and fortress of Candia had been defended by its Venetian garrison for twenty years against a Turkish army encamped under its walls. He pledged himself to its reduction, and gained possession of it after three years of close siege and open trenches, during which 100,000 Turks perished under its walls. The island of Crete was added to the Dárul Islam and to the heritage of the House of Othman, and the indefatigable Vazir set out to make fresh conquests, this time at the expense of the Poles. The Turks and Tartars were many times routed with great slaughter by the Polish champion, Sobieski; but the perseverance of the Grand Vazir and the numbers and resources of the invaders finally prevailed. A Turkish army reached Lemberg in Gallicia, the most northerly point to which the Ottoman arms ever penetrated in Europe, and the Poles found themselves constrained to purchase peace by the cession of the strong fortress of Kaminiek with seventy towns and villages in its vicinity. This was the last territorial conquest made by the Turks in Europe.

(To be Continued).

THE VON LÖBELL ANNUAL REPORTS ON MILITARY MATTERS IN 1906.

Précis from the German by Lieut.-Colonel E. GUNTER, *p.s.c., late East Lancashire Regiment.*

PREFACE.

THE shorter title of this work as above is considered to describe it better. In Part I. a short sketch of the military system or law of service in each state is given where the space available admits of it, as well as—by particular request—a brief description of the system of military education and training followed. The results of experiments in determining the most suitable Field Service dress carried on in the chief States are given. Reports on the Japanese Army and of Great Britian's Native Army in India are added. Owing to the strained relations between certain South American States, it was thought desirable to give Reports of the Argentine, Brazilian, and Chilian Forces. In Part II. the Reports on Military Communications are again enlarged owing to their increased importance.

The Editorial Staff have to mourn the loss of a valued colleague in Major Schott, on the retired list, who had won a high reputation as a writer on artillery matters in this and other publications. Its Editor and the contributors will always bear him in honoured remembrance.

PART I.

ORGANISATION.

AUSTRIA-HUNGARY.

No changes worth bringing to notice are reported. The Austria-Hungarian Army remains much as it was in 1902†. As in most Armies, the potential War Strength is kept secret. The Peace Strength of Units is approximately as under:—

—	Officers.	N.C.O. & Men.	Horses.	Guns.	Wagons.	Remarks.
Regular Forces.						
Infantry Bn. ...	18	375*	2	...	..	* Normal Establishment.
Cavalry Sqdn. ...	5	116	149	...	...	Higher „ has
H. Artillery ...	5	122	110	6	12	520 men.
Field Artillery ..	4	101	43	4	8	
Austrian Militia.						
Infantry Bn. ..	18	235	2	...	...	
Cavalry Sqdn. ...	5	73	60	...	...	
Hungarian Militia.						
Infantry Bn. ...	18	208	2	...	...	
Cavalry Sqdn. ...	4	65	57	...	...	

† See the JOURNAL for October, 1903, p. 1117, where a tabular statement is given.

The total Peace Strength is exclusive of officers—

Regular Forces	286,080
Austrian Landwehr	32,254
Hungarian Landwehr	25,596

Count Beck, who has been Chief of the General Staff for 25 years, has now been nominated by the Emperor Captain in the Imperial Body Guard. His successor as Chief of the General Staff is Field-Marshal F. C. von Hötzendorff, who commanded the 8th Infantry Division at Innsbrüch: a well-known writer on Tactics, with a high reputation as a Commander. The Arch Duke Rainer, who was Commander-in-Chief of the Imperial Landwehr for 34 years, has retired.

BELGIUM, 1906.

No important changes have taken place in the Belgian Army since last reported in the JOURNAL for November, 1906, p. 1267, which gives the approximate numbers tabulated.

The expansion on mobilisation for war does not seem, according to the Report, to offer great possibilities for the required garrisons of the fortresses and for the nucleus of a Field Army. "In 1906 there was great opposition in Parliament to the proposed grant for the Antwerp fortifications. Through the instrumentality of the King this was, however, passed. The question of passive defence is thereby solved. That of active defence is still unanswered, and many consider that the effective strength of the Army is not commensurate with that of the fortresses, and should be increased. To do this adequately is not, however, possible under the present system of recruiting,† even with the slight reforms introduced in 1904. It is only possible with Universal Service, which is at present out of the question. Only such burning questions will be discussed as the reorganisation of the Field Artillery,†† the measures to be taken in connection with the defence of Antwerp, after the present enceinte is dismantled,* the separation of Field and Fortress Artillery, and the amalgamation of the latter with the Engineers, etc., unsatisfactory as this is; yet the Army owes much of its progress to its War Minister, who has been seven years in office.†††

BULGARIA IN 1906.

The Bulgarian Army Reforms in 1903-1904 led to greater efficiency. Universal compulsory service from 20th year for 2 years in Infantry, etc., is easily enforced; the spirit and discipline of the Army are good, and cannot but have been stimulated by the declaration of the Assembled Sobranje, in November, "that they shun no sacrifices to bring the Bulgarian Army to such a state of efficiency

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† The recruiting system is based on voluntary enlistment, supplemented when required by a modified conscription, substitutes being allowed.—E.G.

†† The new Q.F. field guns (Krupp's) are not yet issued.—E.G.

*See Permanent Fortification.—E.G.

†††General Consebant d'Alkemade. He retired this year.—E.G.

as would enable it to fulfil the objects for which it is kept on foot." The Military Budget was increased in 1906 by 1,281,084 leva.*

There are 9 Divisions of 2 Brigades each. Each Brigade has 2 Regiments, each Regiment 2 Battalions, and each Battalion 4 Companies, as a rule.

It is intended that these 9 Divisions shall be expanded to 18 in war, and probably all units will be in like manner systematically duplicated, as, owing to progress in organisation since 1903, practically every able-bodied young man is subjected to military training.

In July, 1907, 81 Field Batteries, each of 4 Q.F.F. guns, which have been ordered in France, will be delivered, but even with these and the 9 Mountain Batteries of 6 Q.F.F. guns each, and the 18 Krupp Mountain Batteries already delivered, there will hardly be 6 Batteries to each of the 18 Divisions on mobilisation. The Cavalry is also behindhand as regards numbers.

FRANCE IN 1906.

The new Army Enlistment Act of the 21st March, 1905,† did not entirely come into force until the autumn of 1906. In 1907 it will be completed by the enrolment of the contingents of 1906. No great difficulty was experienced in carrying out the new system. The expected decree regulating the number and strength of the Commands and Staff† was not issued, though much required. Other Regulations establishing the organisation of the Field and Heavy Artillery of the Field Army, the Machine Gun Detachments, etc., may soon be expected.

The manufacture of the new rifle has not yet begun, but it is believed it will be in the spring of 1907. It will probably be an automatic repeater of about 6·5-mm. (·256-inch) calibre (see Small Arms).

No changes have been made in the stations of the 20 Army Corps, the Tunisian Division, and the 8 Cavalry Divisions, or the Colonial Corps.†† Excepting the 4 in Algeria (19 Corps) and 3 in Châlons and Marne (VI.) and Besançon (VII.) and the Colonial Corps, there are 2 Infantry Divisions in each Army Corps. Each Cavalry Division includes 2 Batteries of Horse Artillery. Last year only the Infantry Regiments on the frontier, viz., those of the VIth, VIIth, XXth, XIVth, and XVth Army Corps, had 4 Battalions. The others had mostly 3 Battalions each, the raising of the 4th Battalions for these Regiments sanctioned in 1897 not being yet carried out. The Line Battalions have in all cases 4 Companies each, excepting some new ones with 2 only. There are 30 rifle Battalions of 6 Companies each. The 4 Zouave Regiments have 5 Battalions of 4 Companies each, of which the 5th Battalion and its Depôt is always stationed in France; the remainder and 2 Depôt Companies are always in Africa. There are 5 Battalions of African Light Infantry of 6 Companies each in Africa. There are 4 Regiments of Algerian

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*About £51,244, as the Leva corresponds to francs.—E.G.

† See the JOURNAL for October, 1906, p. 1225, for details.—E.G.

††See the JOURNAL for November, 1900, pp. 1299 and 1300; and October, 1906, p. 1255.—E.G.

Light Infantry (Turkos),* each of 6 Battalions of 4 Companies and 1 Depôt; 2 Foreign Legion Regiments of 6 Battalions of 4 Companies each and 2 Depôt Companies are in Africa. There are 4 Sahara Companies in Africa. There are 4 Disciplinary Companies and 1 Depôt in Africa, and the War Establishments of the Corps, Infantry and Cavalry Divisions, etc., remain much as before.

The actual present state of the troops more nearly approaches the given numbers on paper than heretofore, the standard of efficiency having been somewhat lowered to effect this, and fewer men put back for future service. The 3- to 5-year Volunteers have decreased owing to the introduction of the 2 years' service, and finally *half-efficients* have been accepted for service, such as workmen, artificers, clerks, etc., whereby an equal number of men hitherto so employed have become available for the front. The present peace strength would therefore be about 585,000 men, exclusive of the Colonial Corps (about 20,000 men). The people are crying out for the release of all men who are now serving their 3 years' engagement out, so it is *probable* they may be discharged to the Reserve this summer. If this is done, the total strengths will of course be reduced.

Reserves.—The Infantry serve 11 years in the Reserve, which is to be used to fill up the cadres of the Field Army Battalions, and to form 145 Reserve Regiments on mobilisation. From the Reports of the *Staff-Rides*, it seems intended to have a Reserve Division for each Army Corps.

Territorial Army.—The men serve for 6 years in the Territorial Army after their service in the Army Reserve, and 6 years in the Territorial Reserve. This 6 years' contingent being now available, 145 Territorial Regiments of 3 Battalions each are to be formed. Also 12 Zouave Battalions, and 36 Squadrons of Light Cavalry, and 5 or 6 Squadrons of *Chasseurs d'Afrique*. Each active Field Artillery Regiment and Garrison Artillery Battalion is to have an Artillery Division (number of Battalions not settled), 20 Engineer Battalions, and a number of Railway Battalions will also be formed.

All Customs officials and men of the Forestry Department belong to the Territorial Army, and are formed in Battalions, Companies, or Sections.

The oldest soldiers of the Territorial Army are being formed into Detachments, for the protection of the roads and railways, or organised as workmen in the fortresses. They are called out for training in their duties from time to time *in peace*.

Increase of Field Artillery.—In order to cope with the German Artillery now about to be armed with a Q.F. barrel-recoiling field gun,† demands are being made in France for an increase in the Field Artillery. But whether this is to be by increasing the number of 4 gun batteries, or by adding 2 guns to these in war, is disputed. The latter would be but a makeshift, the former would be too expensive.

National Defence Committee.—On the 3rd April a decree established a supreme COMMITTEE OF NATIONAL DEFENCE, under the

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* A 5th Turko Regiment is being formed out of the 5th and 6th Battalions of the 4th existing Turko Regiment, and 2 newly raised Battalions will be stationed at Biserta.

† See Artillery material.—E.G.

Presidency of the Prime Minister, with the Ministers of Foreign Affairs, War, the Navy, the Colonies, and Finance, as well as the Chiefs of the Staff and of the Army, and the President of the Colonial Defence Committee as members. The Secretary of the Higher War Council, and three superior officers selected from the Army, Navy, and Colonial Services, assist at the meetings, which are to be held at least half yearly.

Recruiting, etc.—In the autumn of 1905, 321,929 young men were forthcoming as recruits. Of these 23,784 were pronounced unfit. There remained available 298,145. Of this number 26,700 had voluntarily enlisted, and 5,049 were enrolled in the Navy. The total number of troops enrolled (exclusive of Colonial troops) was 249,786.

Population.—The population is slightly on the increase, owing to the hygienic precautions taken, which have lessened the death rate. But the birth rate is as before.

Discipline.—The want of discipline in the French Army, as shown by the recent outbreaks which are detailed, is strongly commented on in the Report; but it is considered that M. Clemençeau will be able by firmness to restore this.

Equipment.—Many improvements have been made in the equipment, clothing, etc., of the French troops after experiments in 1906. General Brugère's system was tried, and General Niox's knapsack. A new 3-litre camp kettle was also tried. Shoes of light cloth, with leather soles were tried against the leather shoes with linen gaiters.

The ammunition carried by the soldier is to be increased to 144 rounds. The equipment for battle is to be confined to that required for living and fighting, *i.e.*, ammunition and the "iron-ration." The rest is to be carried in special packages † in the Company baggage wagons, with the heavy baggage. When on the march, at a distance from the enemy, each man carries 80 rounds of ammunition, and his urgent necessaries rolled in a package or his knapsack. The other 64 rounds and remainder of his kit are carried in Company wagons with the light baggage. A new intrenching tool, weighing under 2½ lbs. in case, was tried, and the intrenching tools carried by the Companies in the field have been much increased.

The "Verry" light bridging equipment for Cavalry has been at last approved of. Each folding boat carries 12 to 15 men. A raft of 2 boats will carry a field gun and limber, and 10 to 12 men. 3 folding boats make a bridge 70 metres long, and 1 service wagon carries the whole equipment, with which each Cavalry Regiment is to be supplied.

The Report goes into voluminous details regarding the officers and non-commissioned officers of the Army and Reserve, which we have not space to reproduce, as also those of the supply of horses, etc. 41,517 non-commissioned officers re-engaged in 1906. The average age of the French Generals in 1906 was 61; Brigade Commanders, 57½; Regimental Commanders, 55; Lieut.-Colonels, 52½; Majors, 49; Captains, 41. The Reservists were called out for four weeks' training. This period is to be reduced to 21 and 14 days in the year, according to the War Minister's (General Picquart) proposals, and that of the Territorial Army to 8 days.

† These answer to our squad-bags.—E.G.

No Army manœuvres on a large scale took place in 1906, but Corps and Divisional manœuvres were held in each command, and siege operations, suspended since 1902, were carried on at Langres from the 20th August to the 6th September, under the direction of General Pendezec, Member of the Higher War Council. Railway operations on a large scale were carried on at Vitry-le-Français, lasting three weeks. Intrenching operations were practised everywhere. The education and training courses of officers and men are fully detailed in the Report. Every officer must serve one year in the ranks before being admitted to the examinations. The courses at the St. Cyr School for Infantry and Cavalry, and at the Polytechnic in Paris for officers of Artillery and Engineers, last 2 years. The non-commissioned officers who, after 2 years' service as such, aspire to commissions, must go through a course of 11 months' training at the St. Maixent (I), Samnur (G), or Versailles (A and E) preparation schools, which are similar to the German War Schools. At least one-third of the officers in the Army must now have entered through the grade of non-commissioned officer.

GERMANY IN 1906.

Only very slight changes have been made in the strengths of the German Army Corps, which, with their stations, were fully detailed last year.† The Brigade in China has been reduced to a Detachment. It numbers 48 officers, 16 sanitary officers, 9 paymasters, 2,250 non-commissioned officers and men, with staffs at Tientsin and the Legation Guard at Peking (2 Companies Infantry, 2 guns), with a Reserve at Tientsin (Company Mounted Infantry, and Company Infantry, with machine guns).

New Pension Regulations.—The new Regulations dated 31st May, 1906, have improved the position of retired officers, so it is hoped some acceleration of promotion will ensue, and the average age of officers lessened, *e.g.*, a lieut.-colonel of 30 years' service will now receive on retirement £291 a year. Each year's war service counts as double to pension. Service abroad counts as double after 12 months' service completed abroad.

Recruiting, Reserves, etc.—In 1906, 1,105,816 young men reached the Service age.†† Of these 35,148 were rejected; 8,757 were enrolled in the Navy; 1,647 in the Naval Reserves; and 210,333 taken into the service, the remainder being put back for the *Ersatz Reserve* or the *Landsturm* (General Levy). Of Volunteers, 10,464 were enrolled for 1 year's service. Elementary schoolmasters, 814; others required to serve 1 year only, 30,585; for 3 years, 9,684. In the Navy 590 enrolled for 1 year; others, 2,791.

The 2 years' service for Infantry, and 3 years for Cavalry and Artillery was carried out.

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† See the JOURNAL, October, 1906, p. 1258.—E.G.

†† This commences from the end of the 20th year till the 31st March of the 39th year, and lasts for 7 years with the colours, and in the Army Reserve; after which the Infantry serve for 5 years in the 1st Ban of the Landwehr, the Cavalry and Artillery 3. After this the service is completed in the 2nd Ban of the Landwehr.—E.G.

Training, Manœuvres, etc.—A proportion of the Army Reserves was called out for 28 days' training, and of the Landwehr for 14 days. The Balloon Detachments were practised for 21 days or longer; the Telegraph troops for 42 and 14 days, as above; the Field and Garrison Artillery Reservists and the Train for 14 days.

The usual Corps Divisional, etc., manœuvres, were carried out, and Imperial manœuvres were held between the 10th and the 13th September, in the neighbourhood of Liegnitz.† The III. and V. Army Corps manœuvred against the VI. Army Corps, strengthened by 1 Brigade of Infantry and 1 of Field Artillery. The Inspector-General of Engineers, etc., superintended engineer manœuvres on a large scale on the Vistula, the Elbe, and the Mulde. The attack of a fortress was practised by the XII. Army Corps (Dresden) in Saxony, and Cavalry exercises were carried out by the XIX. Corps (Leipzig) in the shape of manœuvres for passage of a river line. In Bavaria the II. Army Corps held manœuvres. An 8-day Cavalry ride was carried out under the Bavarian Inspector-General of Cavalry.

GREAT BRITAIN.

The strength of the British Army at Home and in the Colonies, and that of the Army in India, is epitomised in separate tables from the Army Estimates, 1906-07. The reduction of mining engineers, etc., in April of the Chinese and the West Indian Regiments, and of the Mounted Infantry Schools is noticed, as also the abolition of the appointment of second-in-command, which, it says, has been received with disapproval.

Mr. Haldane's plan for the re-organisation of the Army, whereby "greater efficiency is to be attained at less cost," is detailed, and the names and stations of the reduced battalions are given. The increase in the "Striking" or Expeditionary Force, which is contemplated, is especially noticed, and the fact that a portion of it is to be on a Militia basis. This plan, it says, which, in spite of the disarmament policy so loudly proclaimed by Great Britain, will raise the numbers ready for any service abroad 50 per cent., can only be carried out by a much longer and more thorough training of the Militia, which must also be legally obliged to serve abroad.

The measures to be taken for the organisation of the Territorial Army or second line are discussed. The Report says Mr. Haldane reckons on a Home Army of 700,000 men. It quotes articles in the *Militär-Wochenblatt*, No. 122, and *The Army and Navy Gazette*, No. 117, as its authority for these changes. It notices the introduction of obligatory universal Home Service in Jersey, by which every man capable of bearing arms is liable to military service from his 16th to 45th year, *i.e.*, 16 to 20 preparatory training, 20 to 30 service in Militia, 30 to 45 in the Mililtia Reserve, which, it says, will increase the strength of the Infantry in Jersey, inclusive of 1 Line Battalion to 3,000 men.

The Report of the Director of Recruiting and Organisation is analysed, and the changes in pay, etc., especially the introduction of "proficiency" instead of "service pay." It follows the supply of officers' question closely, quoting from the *Army and Navy Gazette* the statement that in the Guards a lieutenant requires at least £500

† Near Breslau, in Silesia.

a year besides his pay. It ridicules the statement of the Under-Secretary of State for War, made in the House of Lords, that England's mobilisation plan enables it to mobilise its forces as quickly as any other European Power can, which it says appears somewhat daring, especially at the very outset of the War Minister's Reform campaign, and in face of the thereby increased mobilisation difficulties.

The publication of new editions of Field Artillery Training, Combined Training (Felddienstordnung), Military Engineering, and Ballooning Manuals are all noticed. The manœuvres of last year are briefly mentioned, and the improvements in Infantry attack and in signalling commended. It mentions the War Stores Scandal and certain ragging cases, which, however, it says it is better not to go into in the absence of official reports. The patriotism of the Railway Companies in responding liberally to the Government appeal for the employment of old soldiers is praised. General von Janson's account of the British Army in the *Militär-Wochenblatt*, those in the *Internationale Revue*, and in the *Jahrbücher* are referred to.

ITALY.

The Report says: No *official* information as to the exact strength and organisation of the Italian Forces is forthcoming. The former Annual Report, on which it based its information, is now suppressed. It can only put together a sort of framework of the 12 Italian Army Corps and 25 Infantry Divisions; but it says many of the troops actually stationed in these Corps regions belong, as a fact, to other Corps. From "A Study of the Most Urgent and Important Military Problems," by Captain Salvador de Paulis, published at Salmona by Angelitti in 1905:—

Established.	Strength.
4 Armies of 3 Army Corps each	440.000
3 Cavalry Divisions 2 Brigades each ..	12,000
12 Infantry „ „ 2 „ ..	168,000
	620,000
Required for Garrisons, Depots, etc. ..	40,000
„ 25 per cent. or so, reinforcements of the Field Army for first 2 months..	155,000
	815,000
To meet these requirements—	
There are under arms	177,477
On furlough (1st class)	326,669
„ (2nd class)	2,097
Total	506,243
Mobile Militia	192,030
Fit for Garrison duty only	20,000
Grand total	718,273

The war strengths would be as follows :—

——	Officers.	N.C.O. & Men.	Horses.	Guns.	Am. Wagons.	Others.
Battalion	24	1,019	10	—	—	5
Squadron	5	134	137	—	-	2
Battery (9 cm.)	4	162	116	6	6	3
(7 cm.)	4	124	92	6	6	3

The promotion of officers is slow: Cavalry subalterns average 14 years before promotion; Infantry, Artillery, and Engineers, 16.

Infantry drill, 1905, was improved, and new musketry instructions were issued in 1906. The anti-military Socialists had naturally to a certain extent affected the discipline of the Army.

Cyclists.—9 Cyclist Companies and 3 Cyclist sections are now attached to the 12 Bersaglieri Regiments. A new Army folding cycle, the invention of a Captain Melli, has been approved. It is manufactured at Paira. It only weighs 26½ pounds, so can easily be carried on a man's back. The wheels are about 24 inches in diameter. This is better than the Carraro cycle used by the Bersaglieri.

JAPAN.

The following is the Peace Organisation and Distribution :—

Divisions.	Infantry.			Cavalry.			Field Artillery.				Engrs.		Train.	
	Brigades.	Regts.	Batns.	Brigades.	Regts.	Sqdns.	Brigades.	Regts.	Brigade† Divns.	Batteries.	Batns.	Cos.	Batns.	Cos.
Guard at Tokio	2	4	12	1[1]	3	11	1[1]	4	8	24	1	3	1	2
1st Divn. at Tokio	2	4	12	1[1]	3	11	1[1]	4	8	24	1	3	1	2
2nd „ Sendai	2	4	12	—	1	3	—	1	2	6	1	3	1	2
3rd „ Nagoya	2	4	12	—	1	3	—	1	2	6	1	3	1	2
4th „ Osaka	2	4	12	—	1	3	—	1	2	6	1	3	1	2
5th „ Hiroshima	2	4	12	—	1	3	—	1	2	6	1	3	1	2
6th „ Kumamoto	2	4	12	—	1	3	—	1	2	6	1	3	1	2
7th „ Asahigawa (Hokaido)	2	4	12	—	1	3	—	1	2	6	1	3	1	2
8th „ Hirosaki	2	4	12	—	1	3	—	1	2	6	1	3	1	2
9th „ Kanagawa	2	4	12	—	1	3	—	1	2	6	1	3	1	2
10th „ Himeji	2	4	12	—	1	3	—	1	2	6	1	3	1	2
11th „ Jentsuji (Shikoku) ...	2	4	12	—	1	3	—	1	2	6	1	3	1	2
12th „ Kokura (Kyushu) ...	2	4	12	—	1	3	—	1	2	6	1	3	1	2
13th „ Hamchiung (Korea) ...	2	4	12	—	1	3	—	1	2	6	1	3	1	2
14th „ Tielin (Manchuria) ...	2	4	12	—	1	3	—	1	2	6	1	3	1	2
15th „ Pjonyang (Korea) ...	2	4	12	—	1	3	—	1	2	6	1	3	1	2
16th „ Lyauyang (Manchuria)	2	4	12	—	1	3	—	1	2	6	1	3	1	2
17 Divisions.†† Totals	34	68	204	2	21	67	2	23	46	138	17	51	17	34

No certain information as to machine-guns.

[1] The Guards and 1st Division have each 1 Cav. Brig. of 3 Regts. and 1 Artillery Brig of 3 Regts. attached to them in peace.

† The Japanese Artillery being organised like the German, I have kept for "Abteilung," the old term Brigade-Division, as our term "Brigade," would clash with their large unit of 3 Artillery Regiments.—E.G.

††An extract from the *Ruskii Invalid*, published in *La France Militaire*, was given in the JOURNAL for January, 1907, p. 101, et seq., in which it was stated that the number of Divisions is to be increased to 20 and Army Corps formed, etc. This has not as yet been confirmed.—E.G.

Additional Troops:—23 Battalions of Fortress Artillery, 1 Railway Battalion, 1 Telegraph Instruction Battalion with a Balloon Section attached. The Formosa Garrison, consisting of 2 mixed Brigades each of 2 Battalions, 1 weak Squadron of Cavalry, 1 Mountain Battery, and 1 Company Engineers. In China there are 7 Companies detached from different Regiments. The Companies of Military Colonists, formerly kept on foot in Hokaido, have been disbanded. There is a weak Battalion detached from the 12th Division at Tsushima.

The peace establishments are not accurately known; but the Divisions in Korea and Manchuria (13th, 14th, 15th, and 16th) have a higher peace establishment. So altogether the peace strength may be taken as about 220,000.

War Strength.—The Divisions are organised for war as in peace. Each Division has 1 Bridging Train, 1 Telegraph Detachment, 1 Ambulance, 4 Infantry, and 3 Artillery Ammunition Columns, 4 Provision Columns, 4 Field Hospitals, and 1 Remount Depôt. Each Army consists of 3 or 4 such Divisions, with corresponding Reserves. There are no Army Corps at present. During the late war in Manchuria, 14 to 16 Reserve, or rather Landwehr, formations were embodied, in addition to the new Divisions which were formed. Most of the Infantry Regiments had only 2 Battalions, though some had 3 and a few 4. The Reserves were generally formed in mixed Brigades. These were not always of similar composition, but generally consisted of 6 Battalions, Engineers, and a Medical Ambulance Detachment. The Artillery Reserves were partly formed into Brigade Divisions (*Abtheilungen*). In some cases single Batteries were distributed among the Artillery Regiments. There were, however, 3 Reserve Divisions, each completed as follows:—2 or 3 Infantry Brigades, 1 Reserve Cavalry Regiment, 1 Reserve Artillery Regiment, 1 Reserve Battalion Engineers, 1 Machine Gun Detachment, 1 Ambulance Detachment, 1 Ammunition Column, 1 Battalion Train.

The formation of these Reserve Divisions was facilitated by the Army Order of the 29th September, 1904,† by which Universal Service was extended from the 20th to the end of the 40th year; the first 3 of which had to be completed with the Colours (or 4 years in the Navy), 3½ years in the Reserve, 10 years in the Landwehr, and 3½ years in the Landsturm, 1st Class. There is also an *Ersatz* Reserve. The men serve for 12½ years and are trained for 3 months. After this they belong to the 1st Class of the Landsturm.

The 2nd Class of the Landsturm consists of all men from 17 to 40 years old, who have not served in the Army or Navy.

The annual contingent of recruits is now over 63,000, and it is intended to introduce the two years' service system.

One-year Volunteers are admitted in the Japanese Army on similar terms to those obtaining in the German Army.

In Formosa there is a Native Militia, about 7,500 strong, to control the savages, etc.

Reservists and Landwehr are trained annually for 2 or 3 weeks.

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† See also the JOURNAL for September, 1905, p. 1091.—E.G.

The General Staff sustained a great loss in the person of its Chief, the distinguished Viscount Kodama, who died in July, 1906. General Baron Oku† replaced him. Lieut.-General Fukushima is his Deputy. He served on the Headquarter Staff in the late war. There is a Supreme Council of War, under the Presidency of the Emperor, which consists of the chief leaders of the Army and Navy, certain Ministers, etc. In 1906 permanent Army Inspectors were appointed, viz.:—

1st	District for the Guards (1st and 3rd Divns.)	General Kawamura.
2nd	„ „ (2nd, 7th, 8th „),	Field-Marshal Count Nodzu.
3rd	„ „ (4th, 9th, 10th, 11th Divns.)	General Baron Kuroki.
4th	„ „ (5th, 6th, 12th Divns.)	General Baron Nogi.

The 13th, 14th, 15th, and 16th Divisions are in Manchuria and Korea, under General Hasegawa, and the troops in the Kwangtun Peninsula are under General Oshima. They respectively inspect the troops under their command.

The education and training of the Army are under the direct supervision of the Emperor. General Baron Nishi is Inspector-General. All the services except the Infantry are under him to ensure uniformity of training, as well as the Cadet Schools and Corps, the War Schools, the Engineer and Artillery Schools, and the School of Musketry; also the Riding Schools with Cavalry Instruction Squadrons.

The Governor-General of Korea, Marquis Ito, has for his assistance the 15th and 16th Divisions, 1,200 Japanese Policemen, and 8 Battalions of Korean Imperial Guards (Infantry). The Postal and Telegraph service is worked by the Japanese. All the rights, customs, railways (of S. Manchuria) in the Kwangtun Peninsula are under Baron Oshima.

The Supply of Officers, etc.—It was intended in 1904 to fill the ranks of officers from the Cadet Corps. Owing to losses during the war, this supply did not suffice, and many non-commissioned officers were promoted officers. It is intended to transfer these to the Reserve. During the war the Reserve of officers came out very well. It is chiefly composed of one-year Volunteer officers.

The **Feldwebellieutenant** holds an intermediate rank between the officer and the non-commissioned officer. Each Company, Squadron, and Battery has one. They carry swords and function as officers, their chief duties in peace being to assist in training on mobilisation, the Reserve of officers being comparatively weak. Each Company has a *feldwebel* (company-sergeant-major); also under-officers (sergeants and corporals) of the 1st and 2nd Class.

Clothing Equipment, etc.—The clothing is khaki-coloured: cotton for summer, woollen cloth for winter. The cap is a flat khaki one with red embroidery and piping, and with star ornaments.

The great-coat is still carried rolled round the pack, and a red woollen blanket also. The indispensable extra rounds of ammunition and iron ration, etc., are packed in the knapsack in a narrow bag of blue linen with strings, so that they can be whipped out in a

† Commander of the IInd Army in the late war with Russia.

minute when the packs have to be left behind (which was always done on going into action), and fastened round the shoulders *en bandolier*. Each man carries a pair of shoes in his pack. Two-thirds of the men carry intrenching tools†—shovels, pickaxes, billhooks, small saws, and heavy wire-nippers; 2 pack horses per Battalion carry 48 heavy shovels, 16 pickaxes, 8 F axes. The small tools were found not to answer, so larger ones are being tried. There is a talk of a new rifle; 150 rounds are carried, 120 in the pockets and 2 packets of 15 each in the knapsack. During the war 250 rounds were, however, distributed on going into action.

The Field Artillery is to have a new gun—a Q.F. Krupp, with a recoiling barrel and steel protecting shields; it ranges up to 6 miles.

RUSSIA.

The Report says the demobilisation of the Russian Army was finally successfully completed in 1906, as was the reorganisation of its Siberian and East Siberian Forces, which had been in preparation since 1905. Among other reforms are the shortening of the service with the Colours, improved pension regulations, new qualifying tests for officers of and above the rank of captain; measures for reducing the age of generals on the active list, etc., and the organisation of the General staff.

In high quarters efforts are being made to take to heart the lessons of the late war. The fruits of their labours can hardly be earned, however, until quieter times. Constant changes and many detachments necessitated by considerations of the public safety hamper improvements in organisation. Voluminous tabular statements are as usual, appended, but space considerations forbid these being reproduced here. Moreover, it is stated that, though as correct as circumstances admit of, they are not entirely reliable owing to changes still in progress. Mutinous conduct in certain Regiments and Battalions necessitated their being broken up or mixed with others or otherwise dislocated.

General Grippenberg, Inspector-General of Infantry, retired owing to ill-health in 1906, his successor being Adjutant-General Sarubajew, who commanded the IVth Siberian Army Corps in the late war.

A historical section of the General Staff has been formed under Major-General Romeiko-Gurko, with 12 members, to write the history of the late Russo-Japanese war of 1904-5.

The Imperial Defence Committee established in 1906 a Supreme Selection Board, as we should call it (*Oberste qualifizierungs Commission*). Members: The President of the Defence Committee, the Minister of War, the Chief of the Staff, the Inspectors-General, and the Chief of the Headquarter Staff. The President can nominate any Generals commanding districts as members, and the Tsar can appoint any members he wishes. This Board tests the fitness for command of the general officers of the Army, and to select those to be recommended to the Tsar to fill the chief commands and other offices, down to the brigadiers commanding independent Brigades, and the fortress commandants. For junior ranks and up to the rank of Lieut.-Colonel a mixed Selection Board of 32 officers (from the

† A description of the intrenching tools then in use was given in the JOURNAL for November, 1905, pp. 1328 and 30.—E.G.

rank of divisional commander down to captain inclusive) sits under the presidency of the Inspector-General of Infantry. This Board has also taken measures for the better supply of Army officers, which involves the weeding-out of unsuitable elements from the Secondary and War Schools.

Discipline, etc.—The demobilisation of the Reservists, etc., in Eastern Asia was interrupted for many weeks by the railway employés making common cause with the revolutionists. Anarchy reigned for a time on both sides of the Baikal Lake, and General Linievitch was unable to cope with it. The energetic measures of Generals von Rennenkampf and von Mellersakomeski, however, restored order, which was maintained by General Grodekov, so that by the end of July the home transport of the European portion of the troops was completed.

The Russian Army on the whole justified the reliance on its fidelity under the very severe test of 1906. That it remained faithful was owing to the tardy but efficient action of the Government, not only against the revolutionaries, but against mutineers and weaklings in its own ranks. If the Goverment continues firm, and only entrusts the command of its troops to energetic leaders, there is reason to hope that the Russian Army will in future remain a sure support of the Throne. The fact remains, however, that in 1906 many a blot tarnished its escutcheon. In Vladivostok, Sweaborg, Kronstadt, and Sevastopol sanguinary outbreaks occurred, stimulated by the bad influence of the thoroughly demoralised Navy in those ports. The bloodless mutiny of the 1st Battalion of the Preobraschenski Regiment of the 1st Division Imperial Guard Corps was almost more shameful. It was dismissed from the Guard. The regimental, divisional, and corps commanders were retired. The conduct of the 7th *Ersatz* Cavalry Regiment must have been serious, for it was deprived of its standard. In Turkestan great excesses took place, which led to the retirement in disgrace of General Subbotitsch, who commanded there.

It was a sad token of the bad spirit existing in the body of officers and in the Army when a military journal, conducted by officers, both on the active and retired lists, had at length to be suppressed because it attacked the Army Administration in the most scandalous way, and abused the officers ordered on punitory expeditions.

SWITZERLAND.

The reorganisation expected in 1906† was not carried out.

The Federal Council proposed a Reorganisation Bill in the spring of 1906. This was discussed until the end of December, 1906. The differences between the National and the States Councils could not be adjusted. This may be done by March, 1907. Any Bill so passed cannot, however, become law until the 90 days allowed for the Referendum have lapsed.†† If then the Referendum is demanded (for which the signatures of 30,000 qualified citizens are required), then the Bill is submitted to the public vote.

The following are the chief objects of the Bill:—

a. The omission of all details liable to constant change.

† See the JOURNAL for October, 1906, p. 1260.—E.G.

††This brings it to the end of June this year.—E.G.

b. The remodelling of the course of instruction so that leaders and men may be better trained.

c. To widen the scope and secure the execution of the duty laid upon commanding officers of co-operating with the authorities in maintaining the effective strength and the readiness for war of their troops.

The chief details laid down regulate: (*a*) The duty of personal service from the 20th to the 50th year. (*b*) If prevented serving, the payment of a military tax up to the 40th year of age. (*c*) The liability to certain shooting practices and periods of training. (*d*) Certain exemptions, either as fully occupied by the services they already render to the State, or as unworthy by misconduct to bear arms. (*e*) The rates of compensation for death or accidents on duty.

The classification and details of service are fully gone into in the Report, but for want of room are not translated this year. It will come better in next year's *Précis*, when the Bill has become law.

The men keep their arms and accoutrements at home, being answerable for their good condition.

Recruiting, etc.—In 1906, 31,908 men became liable for service.

11,626 „ were declared unfit (about 36½ per cent.)

4,005 „ were put back (about 12 per cent.)

The 16,277 men (about 51 per cent.) declared eligible in 1906 were distributed as usual. In 1904 it was decided to test gymnastically a portion of those young men who became liable for service in that year. In 1906 this was extended, and *all* were tested. The results are said to have given only moderate satisfaction.

Mobilisation, etc.—At 12 a.m. on the 18th July, 1906, the 22nd Infantry Regiment and Squadron No. 17 of the Canton Zürich were, without warning, ordered to mobilise. The troops had assembled in Zürich and were ready to march off, fully equipped for war, by 8 p.m.

Training.—Recruits are trained in *Recruit Schools*. Infantry and Engineers, 65 to 70 days; Cavalry, 90 days; Artillery, 70 to 75 days. The instructors are professional lieutenants of the Permanent Staffs who have been recommended for promotion as captains. All soldiers nominated for promotion as non-commissioned officers have to go through a course of instruction in Non-commissioned Officers' Schools of from 3 weeks' to 35 days' duration and pass a test examination at the end.

The non-commissioned officers who wish to become officers have to attend courses at the *Officers' Training School* of from 80 to 105 days (according to the arm of the Service) and to pass a test examination at the end.

Lieutenants, before promotion to captain, must not only pass the practical tests indicated, but a theoretical examination in the Officers' Central Training School also.

In 1906 the IVth Corps manœuvred against another Division in the Zürich Highlands. 20 Squadrons of Cavalry with machine gun detachments manœuvred against an Infantry Brigade, and manœuvres for the attack of an entrenched position were also carried out.

(*To be Continued*).

NAVAL NOTES.

Home. The following are the principal appointments which have been made: Vice-Admiral — R. L. Groome, C.V.O. (Retired), to be Director of Transports. Rear-Admirals — R. S. Lowry to be President of War College; F. J. Foley to be Rear-Admiral in the Channel Fleet. Captains — E. J. Slade, M.V.O., to be Director of Naval Intelligence; W. F. Slayter to "Alexandra"; H. H. Tothill to "Illustrious"; A. E. A. Grant to "Barfleur"; the Right Hon. the Marquis of Bristol to "Renown"; A. S. Lafone to "Ariadne."

Vice-Admiral R. L. Groome, C.V.O., succeeds Vice-Admiral Sir G. T. Boyes, K.C.B., as Director of Transports, which is the most important appointment open to flag-officers on the Retired List. Rear-Admiral Foley hoisted his flag in succession to Rear-Admiral Lowry, on board the "Illustrious" at Portsmouth on the 1st inst., Rear-Admiral Lowry's flag having been struck the previous evening. Captain H. G. King-Hall, C.B., D.S.O., has been appointed Director of Naval Intelligence (temporarily), as Captain Slade, the new Director, is to remain for a short period at Portsmouth to give some of the preliminary lectures for the new War Course, before taking up his appointment in London.

The first-class armoured cruiser "Cumberland," which has been fitted out as a sea-going training-ship for cadets, having embarked the first batch of cadets trained under the new scheme, left on the 20th ult. for her first cruise.

The second-class cruiser "Isis," which has been appropriated for the sea training of stoker mechanicians, has also left for her first cruise.

Salvage of Torpedo-boat No. 99.—Both parts of torpedo-boat No. 99, which sank in the Channel some weeks ago, have been successfully raised and towed first into Torquay and later to Devonport, where the repairs, which, although extensive, present no insuperable difficulties, are being carried out.

The Tactical Manœuvres in the North Sea.—For the manœuvres now being carried out in the North Sea, Lord Charles Beresford, who is in supreme command, has under his orders the Channel and Atlantic Fleets, with the Nore Division of the Home Fleet, and the First, Second, and Fifth Cruiser Squadrons, with the Destroyer Flotillas attached to the Channel and Home Fleets and their attendant ships. The first part of the operations, which will be devoted to tactical exercises, commenced on the 14th inst., and will last until the 18th inst., after which the fleet will complete with coal at Queensferry; the second phase, lasting from the 21st to the 26th inst., will be principally devoted to night problems and the most effective means of repelling torpedo attack. Orders have also been given for the mobilisation of the whole of the war signal stations and the manning of them at full strength during the period covered by the manœuvres, with the view of testing their efficiency.

Home. As the "Dreadnought" is still detained at Portsmouth for experimental purposes, Vice-Admiral Sir F. Bridgeman, the Commander-in-Chief of the Home Fleet, is flying his flag on board the "Victorious" during the manœuvres, and Rear-Admiral Adair, commanding the Second Cruiser Squadron, is flying his on board the "Antrim," his own flag-ship (the "Drake") being under repair at Gibraltar.

At the conclusion of the manœuvres the fleets will disperse; the Atlantic Fleet and Second Cruiser Squadron, after completing with coal at Portland, will proceed to Gibraltar. The Channel Fleet is to assemble at Spithead in the second week in November to receive the German Emperor on his arrival.

As has been the case during these tactical operations, now for 3 or 4 years past, they are to be considered strictly confidential; no civilian will be allowed on board any of the ships, and officers, including naval and military officers embarked for instructional purposes, are strictly forbidden to make any communication of any kind to the Press.

Casualties to H.M. Ships.—A Parliamentary paper (299) has been issued, giving a return of casualties to ships on the Navy List during the year ended 31st December, 1906, in continuation of a similar Paper (319) published last year. The casualties include all cases of collision or grounding, and casualties to machinery, and the return shows the date, the name and class of the ship damaged, the nature of the accident, time under repair, and the result of any enquiry that may have been held into the circumstances, specifying if a court-martial was held. The number of casualties, including those which happened to destroyers, submarines, special service vessels, and other small craft, was 87, and the casualties to machinery 9. Of the above casualties, 14 happened to battle-ships, 15 to cruisers, 23 to destroyers, 14 to torpedo-boats, and the remainder to other classes of vessels. The mishaps to the battle-ships include such as the flooding of an engine-room owing to a valve being left open, which happened in the "Cornwallis"; several collisions; the mishap to the "Dreadnought," which struck the sill when being put into dock, and the loss of the "Montagu." Only in the last-named case was there a court-martial. In several of the cases no blame was attributable to the officers, and in others those responsible and held to blame were punished. In respect of the cruisers, the nature of the casualty varies very widely, and only one court-martial was held, in the case of the "Donegal," while in the majority of cases it was reported after enquiry that no blame was attributable to the officers in charge of the ship. Only one other court-martial was held, in the case of the loss of a torpedo-boat while in tow of the "Arrogant." Very many of the mishaps were of a trivial character, and even such an accident as the capsizing of the pinnace of the "Hindustan" is included in the list. The longest time during which a vessel was under repair occurred in the case of the "Thrasher," torpedo-boat destroyer, which, after grounding at Bantry, was 21¼ weeks in the dockyard hands, during which time she was given a general refit. None of the casualties to machinery were of first-class importance.—*Times*, etc.

Health of the Navy for 1905: *Report of Director-General of the Medical Department of the Navy.—Introduction.*—Owing to the reorganisation of the Fleet there have been considerable changes in several of the stations, necessitating various alterations in this year's Report as com-

Home.

pared with the Reports of previous years. Two stations appear for the first time — Channel, including 1st Cruiser Squadron, and Atlantic, with 2nd Cruiser Squadron; while two stations disappear — South Atlantic and Pacific, the remaining ships on this latter station being included in the Irregular Force. With North America and West Indies, the Particular Service Squadron is now included. Finally, the Home Station has changed so materially, with regard to the ships now included under this heading, that it also must be regarded as practically a new station.

As a result of these changes no comparisons with previous years will be made in this Report in dealing with Home, Channel, Atlantic, and North American Stations. With regard to the Total Force and the remaining stations, comparisons will be made as in the Reports of previous years.

The statistical tables having reference to the incidence of diseases, invalidings, and deaths between certain ages, have been omitted in the present report, as it is considered that the value of the conclusions to be gained from these tables is not of sufficient importance to warrant their continuance.

Summary.—The returns for the total force for the year 1905 may be considered as very satisfactory. As compared with the averages of the last eight years, there are decreases in the ratios of cases, invalidings and deaths, and this year's case and death ratios are the lowest recorded since 1856.

As mentioned in the introduction, there have been considerable changes in several of the stations, hence comparisons with the returns of former years from these stations would be misleading, and are not made in this report.

A comparison with the average for the last eight years is instituted when possible.

The ratio of cases per 1,000 of force shows a reduction of 119·29 as compared with the last eight years' ratio.

The invaliding ratio, viz., 23·89 per 1,000, shows a decrease of 4·98 in comparison with the average for the last eight years.

As regards the death rate, the ratio per 1,000 was 3·9, showing a decrease of 1·42 when compared with the last eight years' ratio.

The Mediterranean Station shows the highest invaliding ratio, the East Indies the highest death rate.

No cases of *yellow fever* or *plague*, and only two cases of *small-pox* are returned.

Venereal diseases show a small decline as compared with the last eight years' ratio.

One man was invalided out of the Service for wounds in action sustained in 1904.

The Total Force, corrected for time, in the year 1905, was 111,020, and the total number of cases of disease and injury entered on the sick list was 81,568, which is in the ratio of 734·71 per 1,000, being a decrease of 119·29 per 1,000 as compared with the average ratio of the last eight years.

The average number of men sick daily was 3,365·53, giving a ratio of 30·31 per 1,000, and showing a decrease of 5·44 in comparison with the last eight years' average. The total days' sickness on board ship and in hospital was 1,228,419, which represents an average loss of service from disease and injury of 11·06 days for each person, which is a decrease of 1·99 in comparison with the average of the last eight years.

The total number of persons invalided was 2,653, whch is in the ratio of 23·89 per 1,000, and shows a decrease of 4·98 in comparison with the

Home. average of the last eight years. Of the above total 1,719 persons were finally invalided from the Service (121 of these refused surgical operation), giving a ratio of 15·48 per 1,000 for the whole force, or 64·79 per cent. of the number invalided, thus showing a decrease of ·4 per 1,000 when contrasted with 1904.[1]

Including the Marines invalided at Head-quarters, the total number invalided out of the Service was 1,941. It should be noted that the invalids from Marine Head-quarters appear for the first time in this table.

Deaths number 433, a ratio of 3·9 per 1,000—showing a decrease of 1·42 per 1,000 as compared with the ratio for last eight years.

The average number of entries on the sick list for disease and injury per man was, on the Home Station, ·68; Channel, ·65; Atlantic, ·78; Mediterranean, ·71; North America and West Indies with Particular Service Squadron, ·89; China, ·85; East Indies, ·83; Australia, ·7; Cape of Good Hope, ·93, and the Irregular Force, ·92. In the Total Force the average per man was ·73, a decrease of ·02 in comparison with 1904.

The ratio per 1,000 of men sick daily on the various stations was, on the Home Station, 33·36; Channel, 22·43; Atlantic, 23·85; Mediterranean, 26·58; North America and West Indies with Particular Service Squadron, 27·09; China, 28·48; East Indies, 26·17; Australia, 27·36; Cape of Good Hope, 35·3; Irregular Force, 53·27. The average ratio of sickness for the total Force was 30·31, which is a decrease of 1·04 per 1,000 as compared with the preceding year.

The Channel Fleet shows the lowest sick rate and the Irregular Force the highest.

The average number of men sick daily will be found in the Medical Statistical Returns of the Total Force, Table No. 1.

The total number of persons invalided was 2,653, of whom 2,445 were invalided for disease and 208 for injury. The ratio of invaliding for disease alone was 22·02, and for injury 1·87 per 1,000.

For the ratios of invaliding on the several stations, see Medical Statistical Returns of the Total Force, Table No. 3.

Of those stations where comparisons can be made with the figures for 1904, the Mediterranean and Irregular Force show increased invaliding ratios; China, East Indies, Australia, and Cape of Good Hope show diminished ratios.

The total number of deaths was 443, as above stated, and of these 305 were from disease, 128 from injuries. The death rate due to disease alone was 2·74, and that due to injuries was 1·15 per 1,000.

The ratios of death from disease and injuries on the several stations will be found in the Medical Statistical Returns of the Total Force, Table No. 3.

Compared with 1904, the stations showing an increased death rate are the Mediterranean and the Irregular Force; the remainder of those for which comparisons are made show a decreased rate.

A table (No. 4) will be found in the Medical Statistical Returns of the Total Force showing the ratio per 1,000 of force of all classes of disease and injury entered on the sick list, as well as of the invaliding and mortality from the different classes of disease and injury on the various stations during the year.

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[1]The first total includes men temporarily invalided from Foreign stations, many of whom on arrival in England, or after treatment in Home hospitals, were again able to join the active force. The number finally invalided represents the waste of the Service from this cause during the year.

France. The following are the principal promotions and appointments which have been made: Vice-Admiral — P. Germinet to Command of Mediterranean Fleet. Rear-Admirals — P. Germinet to Vice-Admiral; F. E. Richard-Foy to be Commander-in-Chief of the Naval Division in Indo-China; F. J. P. Perrin to be Commander-in-Chief of the Naval Division in China; J. Baëhme to be Commander-in-Chief of the Naval Division of Tunis; J. L. Le Pord to the Command of a Division of the Mediterranean Squadron; P. L. Chocheprat to the Command of a Reserve Division of the Squadron of the Mediterranean. Capitaines de Vaisseau—E. J. Perrin, M. J. Baudry-Lacantinerie to be Rear-Admirals; M. E. Laurent to "La Bretagne." Capitaines de Frégate—J. M. Lemoine, L. G. Drouet, L. A. Mottey to be Capitaines de Vaisseau; E. L. Conrad-Bruat to "Arc" and 5th Torpedo Flotilla of the Mediterranean.

General.—Rear-Admiral Chocheprat hoisted his flag on the 28th ult. at Toulon on board the first-class battle-ship "Masséna," in succession to Rear-Admiral Kiésel, in command of the 3rd Division of the Mediterranean Fleet; he has selected Capitaine de Frégate Beissières as his chief of the Staff.

Rear-Admiral Le Pord, also the same day, hoisted his flag on board the first-class battle-ship "Saint Louis," in succession to Rear-Admiral Manceron, in command of the 2nd Divison of the Mediterranean Fleet.

It is stated that the last naval manœuvres having shown that the military masts make a vessel too conspicuous a target, it has been decided to abolish them and substitute light signal masts in the new ships building.

The first-class battle-ship "Justice" completed her twenty-four hours' two-thirds power trial very satisfactorily, developing 11,530-I.H.P. instead of the 10,000 specified for, and attaining an average speed of 18 knots, which equals the estimated full speed. On the 31st July she carried out her full-power trial off Hyères, the I.H.P. being 18,548, instead of the 18,000 specified for, and the speed being 19·43, instead of 18 knots. This is another success for the Niclausse firm, who also supplied the boilers for the "République" and "Patrie."

The Explosion on board the "Iéna."—Gié (mechanician principal), Savary de Beauregard (ensign de vaisseau), and 32 petty officers and men, whose bodies have not been recovered, are certified officially to have been lost in the explosion on board the "Iéna," and their names are published for information of their next-of-kin.

The Report of the Senate on the Explosion on board the "Iéna."—At the conclusion of his report for the Commission of the Senate on the explosion on board the "Iéna," which has already been noticed, M. Monis, the Reporter, makes the following general remarks:—

We have found in our ships magazines placed next to compartments whose torrid temperature is maintained, crossed by numerous steam pipes and dynamo exhausts, etc., and B powder only separated from black powder by a bulkhead a few millimetres thick, which moreover is pierced with openings 14 cm. by 6 c.m., making the two magazines practically one. . . . . The constructor of these magazines would no doubt excuse himself by saying that he knew absolutely nothing of the composition of the powders to be placed in them, though after more than 20

France. years' experience, B powder has from the first been known to be dangerous at high temperatures.

The fact is, the naval artillerists, the naval constructor, and the naval officer have no agreement in common; they ignore and detest each other, and everything to do with the ship is a cause of bitter struggle between them. There is no superior authority to bring the divergent forces into harmony, but each works for itself, asserting its authority and treating the other with contempt, the whole amounting to organised anarchy.

Officers who are an honour to the Service have asserted before the Committee: "No one really commands us," and it is this distressing weakness of the central power which is the cause of the increasing feebleness of our Navy.

The former director of naval artillery, in giving evidence before us, said: "It is the system which is at fault, the horrible system of irresponsibility and indifference in military matters." This system has brought about the "Iéna" disaster, foreseen and foretold years before, no cry of alarm having been ever able to rouse the ministerial and administrative fatalism. To what may it not yet lead us? The results of the heavy gun firing from the Northern and Mediterranean Squadrons on the 29th and 30th July, 1907, is the reply.

If we are compelled to fight possible enemies with guns firing much less rapidly than theirs, with powder doubly dangerous both as regards safety and ballistic power, and with shells which are only dangerous to ourselves, the battle will be too unequal.

The most recent history of naval warfare shows us Admiral Cervera sacrificing himself uselessly with guns silent and magazines empty, and the Russian fleet going round the world to meet an enemy able to destroy it without danger because of the superiority of its fire and of the quality of its shells.

Let us look at these sad pictures and swear to ourselves to re-establish authority, order, discipline, responsibility, and vigilance in the French Navy, to co-ordinate the efforts of the technical and combatant services under united and enlightened command, firm enough to assure by this means to our generous country a *matériel* and artillery worthy of the courage, intelligence, and valour of our seamen. To this national work we invite all Frenchmen of whatever party.

Submarines. — It is reported from Cherbourg that the submarine "Opale" is about to be commissioned after 8 months' trials, during which various modifications have been made. She is the first of the six submarines of 420 tons laid down on the 20th October 1903, so that she has been nearly 4 years completing. The "Emeraude," the second of the batch, will be ready in two months, the four others in from six to ten months' time. The "Opale" has a surface speed of 11·3 knots; her submerged speed has not yet been determined, but 9 knots is expected. She is able to keep at sea for eight days without replenishing.

The submersible "Circe," of 351 tons, was launched at Toulon on the 13th September.

The twelve submarines built at Cherbourg, of which one is already launched, have been named after the months of the Republican calendar as follows: "Nivôse," "Pluviôse," "Ventôse," "Germinal," "Floréal," "Prairial," "Messidor," "Thermidor," "Fructidor," "Vondémiare," "Brumaire," "Frimaire."

France.

Premature Explosions.—At the recent target practice of the fleet in the Mediterranean at the close of the manœuvres several of the heavy cast-steel shells fired loaded with black powder burst prematurely, namely, from the "Suffren's" 305-mm. (12-inch) guns 6 out of 12 fired, as well as 3 from her 164-mm. (6·4-inch) guns. From the "République" one 305-mm. and sixteen 164-mm. shells, from the "Carnot" three 305-mm., and in the case of the "Saint Louis" eleven out of twelve 305-mm. shells burst within 50 yards of the ship. It is reported that these shells were all of an old pattern, condemned as too weak in their structure, and that the fuses were also of an obsolete pattern, condemned as too sensitive. Orders have been given for all these shells to be replaced immediately by newer pattern projectiles.

On this subject Admiral Bienaimé, Deputé for Paris, has addressed a letter to the Minister of Marine, from which the following is extracted:—" . . . . You did not deign to reply to me when, during the discussion on the credits for 1906, I told the Chamber that the shell-rooms of even our most recent ships were stored with crockery-made projectiles; neither did you reply when I endeavoured, on the 11th July last, to make you understand that we are more or less in an unarmed condition due to neglect of our naval artillery, notwithstanding the reiterated demands of naval officers. . . . The guns of the squadron have now explained matters for you. . . . I have the honour to inform you of my intention to question you on this subject as soon as the Chamber reassembles."

Accident on Board the "Couronne."—A serious gun accident has taken place on board the gunnery-ship "Couronne" while at target practice off Hyères, by which two men have been killed and several wounded. The breech of one of the guns blew out and flew across the deck, lodging in the cooking galley, and only just missing a whole class of men under instruction. Enquiry has shown the accident was caused by premature action of the striker exploding the cartridge before the breech was properly closed.

An Excellent Plan.—Under this heading the *Temps* publishes the following:—

"When we are informed that in the naval ports sailors on night leave have been convicted of attacks on people in the public streets, and that at Cherbourg it has been necessary to hold an enquiry as to how to make the streets of the town safe at night, the question naturally arises: How is it that the number of men allowed on night leave are sufficiently numerous to terrorise the town? The answer is: That a decree of M. Pelletan, late Minister of Marine, directs that all seamen of the fleet are to be allowed on shore at least one night in three to roam about the town in a state of vagabondage. The text of this decree of 11th April, 1903, is as follows:—

"'When a ship is in a French port the captain is to allow petty officers to land at least every alternate day and all other men at least every third day; they are also to be allowed to remain on shore for the night in the military ports, and when it is considered advisable in other ports.'

"Thus by this decree the captain is ordered to send on shore every night at least one-third of his ship's company. There would be no harm in allowing a man to remain on shore for the night if it could be arranged that he had not to sleep out in the open; but the sailor, as a

France. rule, has not much money, and when he has expended the few pence of his pay in a public-house, there is nothing for him but to walk the streets for the rest of the night and look out for a bench where he can lie down to await the time for his return on board, or what is still worse, endeavour to find a free bed in some disreputable house.

"Besides getting him into the bad company of night-prowling hooligans, the physical fatigue which such a disturbed night induces, predisposes him to idleness and acts of indiscipline when he returns on board, and it can safely be said that this frequent night leave has much to do with the present state of demoralisation of the crews of our ships.

"Vice-Admiral Besson, Maritime Prefect of Cherbourg, has sought means to improve this state of affairs, and has made arrangements to enable men who do not wish to stay on shore all night to return to their ships, and has forwarded to the Minister of Marine a report on the subject, from which the following is an extract:—

"'Much concerned at the fatal effects on discipline caused by the amount of night leave now given, forcing men to sleep on shore, it seemed to me likely that I might be able to withdraw some of the men from the pernicious influences of a night in the town by making arrangements for them to return on board their ships. I have therefore given orders for the past few weeks to open the arsenal gate at 8.30 and 10.30 p.m. and at 12.30 a.m. A suitable room outside has been placed at my disposal by the military authorities, and this I have had warmed and lighted, and arranged as a waiting-room, and here, under the charge of a petty officer, the men can await the hour for returning on board, when another petty officer, detailed in turn by the ships of the fleet, marches them down to their ships.

"'I have ascertained that in two months, 7,860 men have availed themselves of this means of returning from leave, which is a little more than one-third of the total number of liberty men (19,800) in the same period. The number of men returning at 8.30 and 10.30 p.m. is about equal, and slightly less than the number returning at 12.30 a.m.'

"A copy of this report has, by order of the Minister of Marine, been forwarded to the Prefect Maritimes of the other military ports, who have been requested to try the same plan and report upon it."—*Le Temps* and *Le Moniteur de la Flotte.*

United States. *The U.S.S. "Birmingham."*—The U.S. scout-cruiser "Birmingham," launched from the yards of the Fore River Shipbuilding Company, Quincy, Mass., on 29th May, is an entirely new type of vessel so far as the Navy is concerned, and the various features of the design have been given the most careful consideration.

The estimated speed, 24 knots, is greater than that of any other cruiser of the Navy, and is exceeded only by that of the torpedo-boats and destroyers, and while it is slightly less than that of the English scouts now building, the difference in speed is more than compensated for by the ability to maintain the high speed in all conditions of weather, more than twice the coal capacity of the English scouts, and, consequently, a greatly increased radius of action.

The plans as fully developed call for a vessel of the following characteristics:—

Length between perpendiculars, 420 feet; length over all, 423 feet 2 inches; beam, moulded, 46 feet 8 inches; draught, fully loaded, 19 feet

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1½ inches; depth, amidships, moulded, 36 feet 5 1-16 inches; displacement, fully loaded, 4,640 tons; displacement on trial, 3,750 tons; draught on trial, 16 feet 9½ inches; total coal capacity, 1,250 tons; coal on trial, 475 tons; feed water total, 100 tons; feed water on trial, 50 tons; maximum speed, average of four hours' run, 24 knots; steaming radius at 10 knots per hour, about 6,250 knots; steaming radius at full speed, about 1,875 knots; maximum I.H.P. M. engines, est., 16,000 knots; I.H.P., auxiliaries, 400 knots.

The freeboard of the vessel is greater than that of any other vessel in the Navy, being, at the normal draught, 19 feet 8½ inches amidships, 34 feet at the stem, and 21 feet 6 inches at the stern. The high freeboard insures good sea-going qualities, gives great range of stability, and provides a safe and dry vessel under all conditions of weather. On account of the high freeboard it has been possible to provide commodious quarters for the officers and crew well above the water-line. A forecastle has been provided above the main deck for about one quarter of the length, and deck-houses have been arranged abaft the forecastle.

Ample sub-division has been made to insure the vessel keeping afloat with no resulting serious change of trim or loss of stability if several of the compartments are pierced.

In planning the structural details, the greatest care has been exercised to provide a hull which shall combine with lightness the strength and stiffness necessary to successfully withstand the severe shocks which the vessel may be called upon to undergo, and particular attention has been paid to the longitudinal strength of the vessel and to the strength of the water-tight bulkheads, that they may be able to withstand the pressure due to the flooding of any compartment, and thus avoid endangering the vessel as a whole.

The hull is built of steel throughout, and she has an inner bottom so that the vessel will be well protected from injury in case of grounding.

Five decks, designated as forecastle, main, berth, orlop, and platform respectively, are provided, the main and berth decks being continuous from stem to stern. Nickel steel protection of 80 pounds per square foot is worked on the shell plating for the length of the machinery space, including the dynamo room, extending from about 3 feet 4 inches below the water-line to about 9 feet 6 inches above, abreast the engine and dynamo rooms, and 6 feet 6 inches above, abreast the boiler rooms. At the forward end of the machinery space and the after end of the dynamo room, partial athwartship bulkheads of 40 pounds nickel steel will be fitted, of the same length as the adjoining side protection. Nickel steel protection will also be fitted in wake of the steering engine.

The battery consists of two 5-inch and six 3-inch Q.F. guns, and two 21-inch submerged torpedo-tubes.

Two submerged torpedo-tubes of the side-loading type, with all necessary accessories, will be installed in the torpedo room forward, one on each side. Four torpedoes for each tube will be carried.

The engines will be of the vertical, twin-screw, four-cylinder, triple-expansion type, located in separate compartments, of a combined I.H.P. of 16,000, arranged for out-board turning propellers when going ahead. The steam pressure in the high-pressure receiver will be 250 pounds. The necessary auxiliaries and accessories will be provided in accordance with the practice of the Bureau of Steam Engineering.

There will be twelve water-tube boilers of the "Express" type, placed in three water-tight compartments, with a total grate surface of 693 square

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feet, and a total heating surface of 37,080 square feet. The working pressure will be 275 pounds per square inch. The steaming capacity will be such that all the steam machinery can be run at full power with an average air pressure in the fire rooms of five inches of water. Four funnels, each 75 feet high above the base, will be fitted. An evaporating and distilling plant capable of evaporating and condensing 16,000 gallons of water per day will be installed, and a refrigerating plant of two tons capacity will also be fitted. The vessel will be steam heated throughout.

She will be lighted throughout by electricity, and to supply the current for the lights and the various electric-driven auxiliaries about the ship, deck winches, ammunition hoists, ventilation sets, air compressors, etc., three thirty-two kilowatt steam-driven generating sets, of 125 volts pressure at the terminals, will be installed in the dynamo room on the platform deck aft.

The chart house and emergency cabin in the after end of the forecastle deck will be of bronze. The chart house and the bridge above will be supplied with the usual steering stands, engine telegraphs and indicators.

The arrangement of the quarters provides accommodation for a commanding officer, twelve ward-room officers, five warrant officers, and 340 men. —*U.S. Army and Navy Journal.*

Submarine Trials. — The submarine boat "Viper" completed its four days' sea trial on 20th August, when it returned to Newport, R.I. The sea trial of the "Viper," and also of the "Octopus," "Cuttlefish," and "Tarantula," has been found to be according to specifications, it is said, and the boats have shown their ability to do all the trial board expected of them and a little more, too. During the time the "Viper" was at sea her crew was entirely self-supporting, no communication whatever being held with the tender or convoy. The men prepared their meals and ate and slept on board. She made a continuous trial of ninety-six hours, the longest on record for any submarine in American waters. In rough weather and during the night the boat was sealed, so that although she was awash the conditions within were just the same as if she had been submerged. Most of the time was spent in the rough waters of Menemsha Light, off Gay Head. She went under water for six hours at top speed. Then she came to the surface and, running under her gasolene engines, recharged her batteries.—*Army and Navy Record.*

MILITARY NOTES.

Home. The following are the principal appointments which have been made :—

Major-Generals—M. H. S. Grover, C.B., Indian Army, to be a Brigade Commander. Sir Rudolph Baron von Slatia Pasha, K.C.M.G., C.V.O., C.B., Egyptian Army, is granted the honorary rank of Major-General in the Army.

Colonels—The undermentioned appointments are made in India : To be Brigade Commanders : J. S. S. Barker, C.B. ; J. G. Ramsay, C.B., Indian Army ; A. Phayre, C.B., Indian Army. To be granted the temporary rank of Brigadier-General whilst employed as Colonels on the Staff :—H. Read, C.B., Indian Army ; H. L. Dawson, C.V.O., C.B., Indian Army ; E. H. Molesworth, C.B., Indian Army ; A. B. Fenton, C.B., Indian Army ; L. M. M. Hall, C.B., Indian Army ; L. J. E. Bradshaw, C.B., Indian Army ; F. G. Atkinson, Indian Army ; C. G. M. Fasken, C.B., Indian Army ; C. H. Westmorland, Indian Army ; F. S. Garratt, C.B., D.S.O. To be Colonels on the Staff with the temporary rank of Brigadier-General whilst so employed :—C. H. Powell, Indian Army ; E. S. Hastings, C.B., D.S.O., Indian Army ; J. C. Swann, C.B., Indian Army. F. A. Bowles to be Inspector of Coast Defences and Garrison Artillery ; J. M. S. Brunker to be Inspector of Artillery, Southern Army. To be Assistant Adjutant-Generals :—E. H. Rodwell, Indian Army ; J. W. G. Tulloch, C.B., Indian Army ; T. H. Haughton, Indian Army ; H. Mullaly, C.B., to be officer in charge of the Military Operations Section of the Department of the Chief of the Staff.

The undermentioned officers to be Brigadier-Generals to command the Artillery of Divisions, and are granted the temporary rank of Brigadier-General whilst so employed :—W. H. Suart, from Commanding Royal Artillery at Newbridge ; J. W. Hawkins, from Staff Officer for Horse and Field Artillery, Irish Command ; T. S. Baldock, C.B., from Commandant, School of Gunnery for Horse and Field Artillery ; W. Tylden, from Staff Officer for Horse and Field Artillery, Eastern Command ; W. F. L. Lindsay, D.S.O., from Commander of Horse and Field Artillery, Southern Command. H. A. Raitt, C.B., from h.p., to be a Brigadier-General, to command a Grouped Regimental District. F. D. V. Wing, C.B., from commanding the Lancashire Field Artillery (Militia), to be a Staff Officer for Horse and Field Artillery.

Suggestions as to the First Steps to be Taken Towards the Formation of County Associations, August, 1907.—The following memorandum has been prepared by the Secretary of State for War personally, in the belief that it might be of some assistance in guiding the Lieutenants of Counties as to procedure with reference to Associations under the Territorial and Reserve Forces Act. It must be understood that this document is merely

Home. intended to contain suggestions, and that the desire is that the Lieutenants should consider themselves free to exercise their own judgment wherever they see a better method of procedure.

The Lieutenant of a County is the *ex officio* President of the Association, and is naturally the first person to be consulted by the Army Council in preparing the framework of the Association. It is assumed that the President knows the general plan of the Act and has seen the model form of scheme under Clause 1. The work of the Association is to raise and maintain the force which constitutes the contribution of the County to the Military Division of the district in which the County is situated.

The direction of the training and the supply of money for bringing the division and its various units into annual camp rests with the General Officer Commanding, who will also superintend and be responsible for the training of the troops during the rest of the year. The work of the Association is to raise the force, either out of the units of the old Auxiliary Forces already existing, but adapted to the new plan, or *de novo*, or partly one and partly the other. The maintenance of the force so raised and other functions laid down in Clause 2 will thenceforward be the duty of the Association.

It is suggested that the President will find it convenient to convene a small meeting of gentlemen who are likely to be in the Association. It is obvious that until the County Forces are raised he cannot tell who of the officers representative of all arms will be on the Association under Clause 1, Section 3, Sub-section (*d*). But, in the first instance, it is plain that there are some gentlemen who are, more than others, likely to be interested in the work of the Association or are connected with bodies who will have to be represented upon it, and who may not improbably be members of it. With these the President might consult with a view to deciding what recommendation he would make after studying with them the provisions of Section I. as to membership of the Association.

The meeting may not improbably find it useful to obtain guidance or explanation from the Army Council on certain points, and in that case I have authorised Lord Lucas, should they communicate with him, to attend any meeting which may be arranged for that purpose.

It may also be found convenient to consult the Grouped Regimental District Commander, or even the General Officer Commanding, on matters which require elucidation.

As soon as the meeting has considered the matter sufficiently, suggestions might be addressed to Lord Lucas as to the modifications to be introduced into the form of model scheme for the purpose of adapting it to the circumstances of the particular County concerned, and as to gentlemen who might properly be nominated by the Army Council as members of the Association.

On the information thus supplied the Army Council will then frame a scheme under which the Association will be constituted, leaving the names of the officers, representative of such new County Forces as will have to be raised under the Act, blank, until these forces actually come into existence.

When a scheme has been partly or wholly worked out by the Lieutenant of the County and others summoned by him, should it be thought desirable to discuss this scheme in detail at the War Office, a small Committee has been appointed for that purpose, under the Presidency of Lord Esher, which will be authorised by the Army Council to act on their behalf.

Home. This will probably be the best time for settling upon a Secretary, as it would be better to leave this important matter until there is a clear ascertainment, regard being had to the military characteristics of the County, of the extent and character of the Secretary's duties, and until it is possible to form an estimate of what salary it will be possible to offer him, and what military experience he ought to possess.

When the Association is constituted under the scheme it will first have to frame its standing orders. Its next duty will be to decide, in consultation with the General Officer Commanding, the Grouped Regimental District Commander, and the Director-General of the Territorial Forces at the War Office, what new units may have to be raised, and what existing ones may have to be rolled up or converted.

Provisional Notes on the Formation and Functions of County Associations.—The composition of the Association as laid down by Clause I. is as follows:—

—	How appointed.
President...	By the Army Council.
Chairman	
Vice-Chairman	
Officers representing all branches of the Territorial Forces within the county. These must number at least one-half of the whole Association ...	
Representatives of the County Council	By the Army Council after consultation with the authority to be represented.
Representatives of Borough Councils (if any) ...	
Representatives of Universities (if any)	
Secretary...	By the Association, with the approval of the Army Council.
Treasurer...	

These members of the Association will then co-opt a certain number of additional members, the number of whom will be fixed by the model scheme, and they are to include where possible representatives of the interests of employers and workmen. There is nothing to prevent members so co-opted from being members of the Territorial Force. The total number of civilian members on the Association representative and co-opted must not out-number the members of the Territorial Force on the Association.

Where a county contains a complete brigade, the Brigadier may sit on the Association as an ordinary member. This also applies to the Divisional General where a county raises a whole Division. Where the brigade covers more than a single county, the Brigadier will come under Clause 24 of the model scheme. There is nothing to prevent the President, Chairman, or Vice-Chairman from being members of the Territorial Force and from being included among the representatives of the Territorial Force upon the Association.

The size of the Association must primarily depend upon the number of units of the Territorial Force contained within the county. As a general rule one representative per unit should suffice. This rule may, on occasions, be stretched. For instance, in some of the smaller counties that only raise one or two units, it may be found impossible to give adequate representation to civilian interests unless more than one military representative is allowed from each unit.

Home.

Due consideration should be given to having all districts of the county represented upon the Association. It will save expenditure, particularly in travelling expenses, if each member can make himself, as far as possible, responsible to the Association for the district in which he resides.

A Chairman who is not the President will be appointed by the Army Council. This will not prevent the President from taking a leading part in the work of the Association if he wishes to do so, as the model scheme lays down that the President shall, if he elects, preside when present. It only enables a division of labour to be made between the leading men on the Association.

In all cases, except where the Association is very small indeed, the Association will probably find it necessary to form Committees, and provision is made for this in the model scheme. The President, if he so wishes, can be a member of any Committee, and the Chairman should certainly be a member of the more important ones, *e.g.*, the General Purposes Committee and the Finance Committee. With regard to presiding, the same remarks apply to these Committees as to the whole Association.

Once the Association has got into its stride, it is pretty certain that it will transact the greater part of its work through its Committees, which will probably have to meet more or less regularly throughout the greater part of the year. Frequent meetings of the whole Association should not be necessary. It is quite possible that quarterly meetings of the whole Association would be found quite sufficient.

If this proves to be the case, it should not, in view of the importance of keeping down the expenses of the Association, prove necessary for the Association to maintain permanently a chamber in which to hold its meetings. In many cases no doubt they may be able to get the use of some room suitable for their purposes free of expense. Where this is not feasible, it would probably be cheaper to hire a room when they want it. As permanent quarters, two rooms should in almost all cases suffice, one for the Secretary in which Committees would meet, and one for the clerk or clerks.

Under Clause 20 of the model scheme, the Associations are empowered to draw up their own Standing Orders.

Finance.

An Association will be responsible for the organisation of the units of the Territorial Force within its county, and for their administration at all times other than when they are called out for training or embodied, or on actual military service.

It will provide the necessary men, clothe them, provide the necessary drill halls, headquarters, storehouses, etc., provide saddlery and harness for their horses, and the ranges for their instruction in shooting. It will provide the number of horses required for the training of its men as demanded by the General Officer Commanding. It will look after the wives and families of its men when embodied, and arrange for the payment of separation or other allowances provided by the War Office when they are embodied. Finally, it will assist in arranging for the registration of horses for the use of His Majesty's Forces in time of war. It has, however, nothing whatever to do with the training of the units raised by it. This function devolves entirely upon the General Officer Commanding, but the cordial co-operation of the Association is essential to enable him to secure the best results.

Home. To enable it to carry out the multifarious duties assigned to it in time of peace, an Association will receive an annual grant from Army funds.

The grant will be made up under four main heads—

(*a.*) A grant per unit[1] for general administrative expenses, such as:—

Maintenance of headquarters, drill halls, riding schools, ranges, etc., apart from structural repairs, including their lighting, heating and cleaning.

Orderly-room expenses in the different units.

Care, cleaning and repair of arms.

Postage and stationery.

Band and prizes, within limits.

Any extra ammunition required beyond the authorised scale provided.

Its own expenses other than provision of accommodation, such as salary of secretary and clerk, if any, office and contingent expenses, travelling.

All general expenses outside the actual training.

The grant will be fixed at the sum which the actual average expenditure of past years has shown to be necessary to cover these services when efficiently administered, with an addition for each unit towards the expenses of the Association itself.

(*b.*) A grant based on the actual cost of renting and keeping in repair, and of meeting the interest and sinking fund on loans, for such headquarters, drill halls, riding schools, ranges, offices, etc., as are considered necessary for the efficiency of the Force.

(*c.*) A grant for the maintenance and replacement of clothing and personal equipment, and of harness and saddlery.

(*d.*) A grant to meet the cost of travelling to ranges and drill grounds for musketry practice and drills required to be performed outside the training period.

It will receive payment at certain rates for all horses supplied on the requisition of the General Officer Commanding.

A grant will also be made to cover the cost of providing horses for instructional purposes for mounted units outside the training period proper.

The total sum of money made up by these grants will be placed at the disposal of the Association to be spent on definite approved services connected with the military efficiency of the units. No part of it will be earmarked for any particular purpose, nor will the amount granted on account of any unit be earmarked for any particular unit.

Its accounts will be audited annually by professional auditors, and copies of the accounts with the auditor's report will be forwarded to the Army Council.

The Association, as a whole, will be subject to such liability as attaches to a corporate body, but the individual members will be under no pecuniary liability for any act done by them as members of the Association in carrying out the duties assigned to them by the constitution of the Association.

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[1] The unit for the purposes of this grant will be the company, squadron, battery, etc.

Home. They will thus be free of all pecuniary liability in the transaction of their legitimate business, and immune from the consequences of everything but misconduct.

The object of an Association should be to keep its expenditure well within its income. No expenditure which will cause an excess over its income should be embarked upon without the previous sanction of the Army Council, and the Association will be expected to formulate proposals showing how such expenditure is to be met.

In the event of the expenditure exceeding the income in any year, the War Office will not insist on a cash settlement of the deficit at the end of the year, but the liability must be carefully taken into account by the Association in disposing of its income during the following year.

As the sum granted is to be spent by the Association at its discretion, it is not proposed to lay down any regulations as to the extent to which it will delegate responsibility to Officers Commanding units and others.

The Association will stand to Officers Commanding units in very much the same position as the Officer Commanding a Volunteer battalion now stands to his various company officers in matters of finance. The Association must remain responsible financially for what is done by any person serving under it. At the same time, while it is desirable that business like the purchase of clothing and the supervision of the provision of headquarters should remain strictly centralised for reasons of economical administration, it is obviously desirable that a certain sum for general expenses should be placed at the disposal of Officers Commanding, and they should preferably be given a fairly free hand in arranging for travelling to drill and musketry, provided, of course, that they keep within the limits assigned by the Association.

In arranging for the provision of the horses required for training, an Association will obviously work in close consultation with the Officers Commanding the various mounted units.

In the case of very small Associations it seems desirable that some arrangement should be made by which they can share a secretary or clerk. It is obviously impracticable to keep up a separate establishment for an Association which comprises very few units. There should be no difficulty in doing this, and the Act provides for the appointment of joint committees, and for the apportionment of the expenses.

Queensland. *The Queensland Defence Force.*—Some idea will be obtained of the position of the Military Force in the Colony of Queensland from the following particulars just published of the contemplated expenditure for 1907. Military accoutrements and equipments, £7,000; field artillery, ammunition wagons, harness and spare parts, and accessories for field guns, £2,900; camp equipment, £8,000; miscellaneous tools and other materials, £1,000; engineer's equipment, £11,000; cadet rifles and spare parts, £10,000; 2,500 sword bayonets and scabbards for short M.L.E. rifles, £18,750; charger and charger cases for short M.L.E. rifles, £6,250; M.L.E. rifles, cases, chargers, and spare parts, £20,000; medical equipment, £2,000; machine guns and ammunition, small arms ammunition (4,000,000 rounds ·303), material for small arms ammunition, Morris-tubes for M.L.E. rifles, electric searchlights, ammunition for fixed defences, naval accoutrements for M.L.E. rifles, 500 heliographs, sights, aiming tubes, deflection teachers, rifle barrels, etc., £16,760; ten practice torpedoes, with gyroscopes complete, £390; total, £104,050, less amount which it is anticipated may not be expended during the year, £24,050;

Queensland. total, £80,000. For special purposes: Special defence provisions, harbour and coastal defences, £250,000; small arms factory, £32,000; cordite factory, £10,000; guns, lights, and emplacements for fixed defences, £50,000; total, £342,000 less the amount which it is anticipated may not be expended during the year, £125,950; total, £216,050.

Austria-Hungary. *Schemes for Increasing the Contingent.*—It is known that for some time the Austro-Hungarian military authorities have been desirous of seeing the annual contingent for the Common Army increased. It has, however, not been possible hitherto to realise this increase, as it necessitates the consent of both the Austrian and the Hungarian Governments, and Hungary, for political motives, has up to the present shown herself absolutely opposed to all measures of this nature.

The number of trained reservists is thus relatively very weak, and entails, in case of necessity, the simultaneous calling out of all the reservists, even those belonging to the oldest classes, whilst in Germany, Regular regiments are brought up to war strength by the calling out of three classes only. In peace time, even, the insufficiency of the contingent constitutes a considerable source of annoyance, and would, probably, prevent the reorganisation of the field artillery and the formation of machine gun groups.

Danzer's Armée Zeitung, in an article which has recently aroused considerable attention, has endeavoured to ascertain if it is not possible to deduct from the actual infantry effectives the number of men necessary for the contemplated formations, without weakening the number of the combatants. The author of the article commences, naturally, with the employed men. He states that with an effective of 93 men, there is hardly one infantry company which could furnish 70 men for drill. Out of these unavailable men, he says, there would be an average of five men carrying out the duties of clerks and fatigue men in various departments or schools. He proposes to replace them by men of the *Ersatz* reserve, who would engage for high pay and a bounty to serve for one or two years in the establishments mentioned above. This would mean 9,000 men saved from the 1,800 companies of the Common Army. The author then proposes the abolition of officers' orderlies, an abolition which would be compulsory for subaltern officers not commanding units, and optional for commanders of units and field officers. As compensation, the monthly allowance would be raised from 16 to 24 or 30 kronen (1 krone = 8½d.) in lieu of orderly. As each company has 3 and each regiment 21 orderlies for the company and regimental staff, a saving of 8,000 men could be realised, says the author, in the infantry and jaegers alone, a number which should be reduced to about 7,000, taking into account that a certain number of officers already take advantage allowance in lieu of servant, low as it is at present.

In the field or at grand manœuvres every officer would be provided with an *Ersatz* reservist as fatigue man.

In conclusion, it should be noted that the servants' allowance, proposed by *Danzer's Armée Zeitung*, would entail on the Government a maximum annual charge of about £15, which is a far lower sum than that caused by the maintenance of a man in the non-combatant branches. —*Revue du Cercle Militaire.*

Japan.

Equipment of the Japanese Soldier. — The equipment of the Japanese soldier is described in an article translated from Le Caducée by Lieutenant Samuel M. De Loffre, Med. Dept., U.S.A., which appears in "The Military Surgeon." The Japanese soldier wears trousers and a short jacket of a bluish black colour, and has a great coat of black material weighing 2,050 grammes. In 1905 a few regiments arrived in Manchuria outfitted with this clothing, but the black colour was hidden beneath a sort of duster of khaki cloth, and only under exceptional circumstances were troops brought up on the firing line without this khaki garment.

The winter uniform in the campaign against Russia was very warm. Each soldier was furnished for the winter: An underskirt and abdominal band of flannel, jersey and woollen drawers and a woollen neckband fifteen centimetres high. Over the ordinary coat and trousers they wore coat and trousers of khaki cloth. The uniform was completed by a loose coat without sleeves, made of sheepskin with the wool inside. The soldier still had his regulation overcoat, and an overcoat of khaki wool, made especially for field service, with a fur collar. He nearly always carried the latter, even on the firing line. The infantryman and cavalryman wore the same overcoat, and it was found to be perfectly suitable for mounted troops as it protected the thighs and knees. The winter equipment, in addition to this, included a large hood made of "cachou" cloth, to which were attached two long bands, which came forward over the chest. The soldier also had two kinds of gloves, one pair knit and one pair of felt mittens. Each man had a knit cap which was worn either on top of or beneath the cap. All the metal parts of the equipment which came in contact with the hands were covered with cloth. The winter uniform was somewhat heavy, but had many advantages.

In the springtime the khaki blouse and trousers, that were worn over the cloth uniform in winter, were removed; and a sort of loosely fitting, light, khaki duster, reaching to the knees, was worn to hide the back uniform. For summer wear the soldier has a khaki uniform, composed of a short fatigue jacket with invisible buttons. This fatigue jacket has four pockets without flaps, two on the side and two on the breast, in which the soldier, in the field, carries numerous small objects, which are very useful to him. The summer trousers are made narrow at the ankle, at which point they can be tied snugly by means of two cotton tapes so as to make the legging fit better. The men have, during the summer, a shirt, an abdominal band, and a pair of drawers, all of canton flannel.

The foot-gear of the infantry soldier in the field is the high shoe (brodequin), weighing 1 K. 360, of tan leather, laced up over the instep. The engineers have the high shoe, but with a flap clasped on the side by means of a tongue and buckle. The cavalrymen and artillerymen wear boots of tan leather. The leather is of a poor quality, very permeable, and becomes easily water-soaked, not a very great inconvenience to the Japanese, because they willingly remain a long time with wet feet, and because their winter campaign was carried on in a very dry country. The sole of the high shoe is hob-nailed. The Japanese soldier wears woollen socks in winter, and cotton in summer. Their socks have no instep nor heel, but are simply sacks. During the winter the men wear two pairs, and also overshoes of soft felt, a sort of mitten into which the toes fit, and reaching up to the middle of the foot. The foot troops had boots of straw, reaching to the knees, with a cloth sole, which were worn over the high shoe, a little heavy to march in, but especially worn by sentries. The cavalrymen had a thick boot of felt cloth, the cloth sole covered with a single

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thickness of leather. The cavalryman took care to cover his stirrups with cloth or sheep-skin. The foot soldiers had leg bands of khaki cloth, 2.20 metres by 10 centimetres. The soldier is furnished a special kind of ointment for his feet, consisting mainly of camphorated vaseline. On the march the Japanese soldier follows along at his fancy; if he feels tired he leaves the ranks, and does not force his gait; if his shoes hurt him, he takes them off, and marches either with his "varragi," straw sandals, which are close at hand, or in his stocking feet. The natural cleanliness of the Japanese renders their feet much less exposed to the infection of slight excoriations.

The head-gear of the Japanese soldier is the same for all arms, a black cloth cap, semi-rigid, with a short cloth visor, and a yellow hat band. That of the Imperial Guard is red; the medical corps have a green colour, and the intendance unbleached serge. The campaign cap is covered with khaki cloth. The visor is too short. During the summer a rear peak is added to the cap, very light, of khaki colour, and made in three pieces, which permits of a better circulation of the air. The hair is worn cut very close, and the men are clean shaven. The reserves, alone, generally wear a moustache or beard. Each man was furnished a pair of eye protectors, with wire netting, to protect more against dust than the sun. During the summer fans were also distributed.

The regulations fix the minimum height for the services as follows: Infantry, 5 feet 2 inches; cavalry, 5 feet; intendance, 5 feet; artillery 5 feet 4 inches; hospital corps, 5 feet 1 inch; employees, 5 feet. The recent war had a tendency to lower these requirements, on account of the great increase in the army. The Japanese soldier is very heavily equipped; taking into account his body weight, he is proportionately the most heavily equipped soldier in the world. The minimum regulation weight reaches twenty-five kilos., but durng winter it is much heavier, and if we count every additional item that the soldier adds to it himself, we can estimate a minimum weight of twenty-eight kilos. for the equipment of the Japanese soldier. As the average body weight of the men is fifty-four kilos., the equipment weighs as much as one-half his body weight.

His equipment consists of: 1 leather haversack; 1 canteen; 1 belt with 3 ammunition boxes. The haversack is made of cow's leather, with the hair on the outside, thirty centimetres square, mounted on a frame of light wood. This haversack fits the back well and is held in place by three straps three centimetres wide, which go over the shoulders, and a strap attached to the belt by two hooks, which allows the weight of the ammunition boxes to be utilized in lessening the constriction of the axillary region by the straps.

In the haversack they carry: 2 days' reserve rations (dried rice, six packages); 8 packages of biscuit; 6 packages of cartridges (30); 1 triangular bandage; 1 repair case for the rifle; 3 pairs of socks (one cotton, two wool); 1 pocket with thread, needles and comb; 1 box of grease for shoes; 1 shirt; 1 drawers; 1 box of preserved meat (this may be a small individual box, or one for three men). The contents of the haversack are nothing compared to the indispensable articles that are attached to its outside: 1 individual aluminum kettle; 1 scoop tool; 1 wicker "bento," a small basket into which the men put their cooked rice, twenty-five centimetres long, eight wide, and six centimetres deep; 1 shelter tent with poles and pins; 1 sand bag; 1 pair of extra shoes; 1 overcoat (not always). The haversack complete weighs thirteen and one-half to fourteen kilos. The men do not carry their blankets on their haversacks. Each man ordinarily has two

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blankets, and they are carried on the regimental wagons. In winter time weight is increased by straw boots, Manchurian shoes, sheep-skin jacket, and sand bag.

The knapsack is made of rubber cloth, divided into two compartments; and the covering flap contains a pocket. The packing of the haversack is left to the discretion of the regimental commanders; frequently the men unslung them before going on the firing line, and the equipment was reduced to bare necessities. The cape was rolled crosswise and carried over the left shoulder. A large piece of blue cloth was used to wrap up the articles the men wished to take with them, and served in lieu of haversacks. This roll, which was worn across the right shoulder, contained two days' reserve rations (rice and biscuit) and sixty cartridges. The belt supported three cartridge boxes.

The Japanese officer carries a small haversack, on which his cape is rolled, and which contains necessary articles such as a change of linen and toilet articles.

The camp equipment consists of: The individual kettle; the canteen; the "bento"; the shelter tent; tools. The individual kettle is of beaten aluminium, and is kidney-shaped; capacity, 1,800 cc.; weight, 450·51 gm.; depth, 20 cm.; width, 15 cm. It is closed by a cover and catch, and has inside of it a loose plate which may be used to serve a cold meat course. On the inside of the kettle are two slight depressions, which divide its depth into three apparently equal parts. For one meal, rice is poured in up to the first mark, then it is filled with water up to the other, and is put on to boil. The canteen is likewise made of beaten aluminium; weight, 170 gm. It is not covered with cloth. It is supported by a light leather frame, from which it can be easily removed and placed on the fire, one of its advantages, for it allows each man to sterilize his own water. Its capacity is 750 cc. The cup is made of aluminium, but many soldiers had them made of wood or enamelled iron. The "bento" is a small wicker basket in which the men keep their cooked rice.

The shelter tent weighs 1 k. 70 gm. On two of its angular sides are a series of aluminium rings rivetted in the canvas; and on the other two symmetrical sides are small pieces of rope, forming loops 25 cm. long. At each corner are rivetted aluminium rings, 3 cm. in diameter, through which the pins are passed. The canvas is light and does not shed water.—*U.S. Army and Navy Journal.*

Russia.

Instructions for the Summer Assemblies.—The following is a brief summary of the principal recommendations in the Orders issued to the Vilna and Kazan Military Districts, published by the *Ruskii Invalid* :—

Vilna Military District.

1. Bring into the camps the greatest number of men possible, and only to distract from the camp manœuvres the number of men absolutely necessary. Corps commanders and general officers should themselves frequently check the effective of the troops under their orders.

2. Importance of the individual instruction of the soldier, the insufficiency of which was brought to light by the experience of the last war. Necessity for developing his initiative and judgment. With these objects, commanders of all ranks should, before every drill, make known to all their subordinates, including the private soldiers, the general object, the situation, and the successive results of the operations. At each drill or

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manœuvre the replacing of commanders, down to and including non-commissioned officers, should be practised.

3. As the preparation of a corps especially depends on the degree of the training of the companies, the period for the Company work will be prolonged by diminishing the time devoted to the drills of stronger units, and the number of Company drills with a tactical object will be proportionately increased.

4. All drills with a tactical object should be carried out with two opposing sides, each party taking in turn the duties of attack and defence. Even in the most limited exercises units should always be at war strength, which is the only method of giving officers, section or group commanders, real practice in command.

5. No tactical exercise, even of small units, should be hastily carried out. At least 5 or 6 hours are required to thoroughly complete the exercise, and to regard it from all points of view.

6. All tactical problems issued should be permeated with the offensive spirit. It should not be laid down in advance which party will be the assailant and which the defender. The director of a manœuvre should leave complete liberty of action to the commanders of the two parties, and should confine himself to fixing: (*a.*) The general object; (*b.*) The situation; (*c.*) The hour for commencing the manœuvre; (*d.*) The zone of action, but not the position to be occupied.

7. Artillery should not allow itself to be drawn by positions concealed from view. It must remember that its chief duty is to assist the infantry and not to consider its own safety.

8. All the troops at the conclusion of their assembly should carry out field firing exercises with manœuvres, and everywhere where it is possible troops of all branches of the service will unite for these practices.

Kazan Military District.

1. Special stress must be laid on the individual instruction of the man.

2. The sole object of summer exercises is the preparation for war. In all exercises the military object to be attained should be known to every soldier taking part. Manual exercises, parades, and elementary gymnastics should be expunged from the programme of the summer exercises.

3. In musketry instruction, firing lying down and on the knee should be preferably taught, as they are the most resorted to in war. In instruction in extended order, the greater portion of the company (up to 3 sections) should be deployed from the very commencement, to obtain fire superiority. The front of the deployment should not be unnecessarily prolonged, and there should be an interval of not more than 2 or 3 paces between each man. Short rushes should be made by groups, or man by man, concealed from the enemy's view, sometimes crawling, according to the distance from the enemy. Remember that in actual fighting the enemy is invisible until one is close enough to him for efficacious infantry fire.

4. Even if the fire, as was frequently the case in the last war, has given decisive results, even in night attacks, the bayonet shock must remain our most efficacious method for completely destroying the enemy. During the summer exercises instruction in bayonet fighting with dummies should be continued, and every drill should conclude with bayonet fighting in close order, and every tactical exercise by an assault where the two sides meet.

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5. Open fire by skirmishers at effective range (1,200 to 1,400 paces), volley firing should be avoided. Take into account the effect of the fire by falling out men selected beforehand, and practice replacing commanders. Occasionally have men's wounds dressed, and have the sham wounded carried away by stretcher bearers.

6. Carefully supervise the service of connections and of reciprocal support that all units should lend one another.

7. All tactical exercises and manœuvres should always be conducted with two sides, with an offensive object and a final collision.

8. Whenever possible entrenchments should be made during the manœuvres. *We paid dearly for despising the spade.*

9. At least once a week each unit (company or battalion) should carry out a night exercise.

10. Always give orders for the fight in writing, and note the verbal orders received. An order clearly given half ensures success or otherwise.

11. When time and ground are available, construct profiles of field entrenchments with accessory defences, and accustom the troops to take them by assault. Accustom men by all possible means to cross obstacles, to swim, to jump, and to climb trees.

12. Accustom the officers and section commanders to solve tactical problems on the ground.

13. The artillery must not allow themselves to be seduced by positions concealed from view.

14. All officers must live in camp. Living with the soldier brings about mutual liking. They should keep in touch with their men not only on but also off duty. It is of special importance to strengthen the men's idea of the sanctity of the oath, the sentiment of loyalty to the Tsar and the Fatherland, and the comprehension of the lofty mission of the soldier. Do not forget to explain to them questions of the day affecting the interests of the entire population, especially the agricultural portion.—*Revue Militaire des Armées Etrangères.*

Observations on the Manœuvres of 1907 of the St. Petersburg Military District.—The *Ruskii Invalid* publishes an order of the Grand Duke Nicholas, commanding the St. Petersburg Military District, containing observations on the manœuvres carried out in the camps of that district, of which the following is a summary :—

Reconnaissance.—The organisation of this service was not always well carried out; it occurred that certain reconnaissances did not furnish information in time to be of use, because they had been sent out in wrong directions. When it is of importance to discover the enemy, it is of use to point out not only the route to be followed, but also a zone to be reconnoitred, and to cross the route fixed by various reconnaissances. Occasionally, infantry scouting detachments were employed on this duty when cavalry was available: this method is most irregular, cavalry alone should be charged with carrying of reconnaissances at long distances.

Security Service.—This duty was, as a rule, well performed, occasionally, however, too many troops were employed on it. During some advances the advanced posts were withdrawn before commencing the march. This method of procedure reveals prematurely to the enemy that something is taking place in front of him, and has also the inconvenience of leaving the main body of the detachment exposed.

Manœuvres in the Hostile Zone of Fire.—The infantry and artillery manœuvred well and made good use of the ground, particularly towards

Russia. the close of their stay in camp. The cavalry, however, sometimes entirely neglected to take the enemy's fire into account, and deployed on open ground when there was cover in close proximity.

The Fight.

Infantry.—At the commencement of the period of training, the advance and the proper utilisation of the ground left much to be desired. It is necessary to insist on the point that in open country, and in the zone of the enemy's efficacious fire, the rushes should be carried out by men singly, who run and group themselves behind some cover pointed out beforehand; they cannot form into groups in broken and open country. Considerable progress in this regard was observed towards the end of the manœuvres.

Artillery.—Thanks to the new mode of estimating the *rôle* of artillery and of the efficacy of its fire, it must be admitted that enormous progress has been made. It commences to make better use of the ground, to occupy masked positions, and only opens fire against proper objectives. The waste of blank ammunition practised formerly no longer exists. On account of the dispersion of batteries in the actual fight, the direction of the fire is rendered far more difficult, and attention should be paid to joining the batteries to the artillery command by telephones. This method, but little employed at first, was regularly practised afterwards.

Cavalry.—The progress was marked, and it may be stated that both mounted and dismounted action were resorted to rationally, according to circumstances.

Horse Artillery.—The first condition to be fulfilled by horse artillery, accompanying cavalry, is to go rapidly to the front and occupy such a position as to support the cavalry up to the last moment preceding the shock. With this object it should occupy a position situated on the flank and at a certain distance from its cavalry when charging, so that the latter does not prematurely mask the objective of the former's fire. In some manœuvres this was not complied with.

Machine Guns.—During the manœuvres machine guns were generally distinguished by green flags, each battalion having 2 machine guns. To each group of 2 machine guns an officer was attached, who was charged with the duty of raising the flags and of following the action of each machine gun, with his watch (the machine gun fires 540 shots a minute), then, after they had fired the number of shots required by the situation, to lower the flags and to write down the length of the period of fire and the number of shots fired, for report at the critique. The troops not being familiar with the mode of action of machine guns, the following principles were laid down :—

1. The distances most favourable for the action of machine guns are from 800 to 1,200 yards;
2. Beyond 2,000 yards, fire should only be opened on especially important objectives, so as to avoid an exaggerated consumption of ammunition;
3. In the offensive they should not approach closer than 800 yards of the enemy, if the machine guns cannot be masked, for at that distance the losses from infantry fire are considerable;
4. In the defensive machine guns should fire up to the last moment, and only leave the position with the infantry.

Russia.

Connections.—Special attention should be devoted to ensure a real connection between the different units manœuvring together. It is only under such conditions that decisions in conformity with the situation can be taken.

Marches.—It sometimes occurred the columns crossed or cut the routes of other columns; this should be avoided.

Shelter-trenches.—When the situation demands the construction of shelter-trenches, the troops should trace them on the ground with the tools in their possession.

Umpires.—As a rule the umpires exercised but little influence on the manœuvre march, they occupied themselves more particularly with following the development. It is, however, necessary, that they should, on the contrary, point out errors immediately they occur, and correct them on the spot. It is only under such conditions that manœuvres fulfil a useful object.

NAVAL AND MILITARY CALENDAR.

SEPTEMBER, 1907.

2nd	(M.)	H.M.S. "Roxburgh" paid off at Chatham.
3rd	(T.)	H.M.S. "Roxburgh" recommissioned at Chatham for service in First Cruiser Squadron.
"	"	2nd Bn. Bedfordshire Regiment arrived in Gibraltar from England in the "Soudan."
"	"	2nd Bn. Duke of Cornwall's L.I. left Gibraltar for Bermuda in the "Soudan."
4th	(W.)	An encounter took place at Casa Blanca between French troops and Moors. There were several casualties on both sides.
10th	(T.)	The first British military airship made a successful trial on Farnborough Common.
12th	(Th.)	French troops inflicted a severe defeat on the Moors at Casa Blanca, and destroyed their camp at Teddart.
"	"	Indian riot took place at Calcutta.
14th	(Sat.)	2nd Bn. Duke of Cornwall's L.I. arrived in Bermuda from Gilbraltar in the "Soudan."
16th	(M.)	2nd Bn. Hampshire Regiment left Bermuda for South Africa in the "Soudan."
17th	(T.)	French conditions for peace were accepted by Moorish delegates at Casa Blanca.
18th	(W.)	XIIIth Battery R.H.A. left England for South Africa in the "Braemar Castle."
21st	(Sat.)	Launch of first-class armoured cruiser "Edgar Quinet" at Brest for French Navy.
22nd	(S.)	Peace negotiations between the French and Moors having failed, operations were resumed by the French at Casa Blanca.
23rd	(M.)	Peace terms were accepted by three leading Moorish tribes.
24th	(T.)	The text of the Anglo-Russian Convention was published.
30th	(M.)	Further successful trials of the British military airship took place at Aldershot.

FOREIGN PERIODICALS.

NAVAL.

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"Submarines to be laid down in 1907." 21st September.—"The Entry of Officers" (*continued*). "Yachting Notes." "Protection against Torpedoes." 28th September.—"The Entry of Officers" (*continued*). "Yachting Notes." "The next Meeting of the Superior Council of the Navy." "The Construction of Torpedo-boats in Germany."

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La Vie Maritime. Paris: 25th August, 1907.—"The Accident on board the "Couronne."" "Heroism of French Seamen." "*A propos* of the "Iéna": The Trials at Gâvres." "Naval Target Practice." "Opium in the Navy." "The Unity of Origin of the Officers of the Navy." "The "Lusitania," or the Folly of Size."

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Streffleurs Militärische Zeitschrift. Vienna: September, 1907.—"The Annexation of Dalmatia" (*continued*). "Fight with the Combined Arms." "The Fight at Wafangku." "On the Employment of Automobiles in Siege Howitzer Divisions." "The Technical Training of French Infantry." "The Russo-Japanese War." "The Manœuvres in China." "Intelligence from Foreign Armies." "Naval Intelligence."

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and Designations." "The Teacher of the Prussian Army." 26th September. "The Importance of Large Streams in Operations." "From the French Autumn Manœuvres, 1907." 28th September.—"A Contribution to the Characteristics of General von Rüchel." "Fifty Years of British Military Rule in India." "Manœuvres and Field Firing for the Three Arms Combined in Russia."

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NOTICES OF BOOKS.

The Naval Annual, 1907. Edited by T. A. BRASSEY, A.I.N.A. Griffin & Co. Portsea, 1907.

The Annual this year, although somewhat smaller in bulk than usual, due in a great measure to the omission of the chapters on Ordnance and Armour, nevertheless fully maintains the high standard of excellence to which we are accustomed, and is a volume full of interest. The Editor does not tell us why the instructive chapters on Ordnance and Armour have been omitted in this new issue, but they will be missed by many readers, for they contained much valuable information not generally accessible to outside students.

Mr. Brassey is one of the few civilians thoroughly posted in naval matters, and although we have not always agreed with him, his views always claim attention. In his preface he submits that if "public confidence in our naval administration has been shaken, the main reason is the, in many cases, extravagant claims put forward on behalf of reforms recently introduced—of which none was more extravagant than the assertion that the scrapping of obsolete vessels was responsible for the reduction of the Navy Estimates." So far from this being the case, he points out that it is "the reduced expenditure on new construction that has been mainly responsible for the economies which have been effected"—and in this, most experts with real knowledge of the question will be in full agreement with him. "Extravagant claims have the reverse effect to that intended; they weaken rather than strengthen public confidence."

"The reforms," he continues, "under the present Board have been many and far-reaching"; and he holds that the Navy has never in recent times been in a better state of preparation for war. But he points out "there is none the less anxiety in the opinion of competent authorities as to the wisdom of some changes, and as to whether others have not been carried too far. In dealing with a great Service, revision and reconsideration are always needed. Some decisions must be open to criticism, It is universally admitted, for instance, that the naval officer of to-day requires more training in engineering than his predecessors; but many consider that an excessive proportion of their time is devoted by naval cadets at Osborne and Dartmouth to the practical and theoretical study of this subject." This is certainly the view held by a considerable number of officers—men whose opinions, owing to their high standing in the Service and long experience, cannot be set on one side as of no account.

So again in regard to the wholesale scrapping of ships which has been going on, although it has been generally commended as right in principle; yet Mr Brassey points out that it is a question whether it has not been carried to excess, and whether ships are not being "scrapped" and sold for insignificant sums, which would have a certain value in time of war; while of all the reforms recently introduced, that which is probably viewed with most apprehension is the introduction of a system of short service into the Navy.

Chapter I. is devoted to the progress of our own Navy during the past year, and Mr. Brassey rightly draws attention to the fact that considerable difference of opinion exists in naval circles, both British and foreign, as to the wisdom of the abandonment of all secondary armament in the "Dreadnought." On the one hand it is claimed that the naval battles of the future, like some of those in the Russo-Japanese war, will be fought at long range, and that at long range 12-inch guns have an overwhelming advantage over the 9·2-inch and guns of smaller calibre; and it is further claimed that even at close range the smashing power of the 12-inch gun will compensate for the greater rapidity of fire of the smaller guns. This view is the one maintained by Lieut.-Commander Sims, Inspector of Target Practice to the United States Navy, and has been largely quoted by admirers of the "Dreadnought" in this country, as confirming the wisdom of the design of that ship; but it is not the view held by Captain Mahan, an even greater authority than Lieut.-Commander Sims. On the other hand, it is maintained that the decisive engagements in the battle of Tsu-shima were fought at much shorter range than has generally been supposed, and that the 6-inch gun played a very important part in deciding the issue of the battle, and that the hail of fire which can be directed from a battery of Q.F. guns on the unprotected works of an enemy's ship would demoralise the fire of her heavy guns. This view seems to be that of Russian officers who were present at the battle of Tsu-shima, drawn from their own experiences in that fight. Mr. Brassey draws attention to the manner in which the armoured cruiser and battle-ship have been approaching one another in fighting power. He points out that the cruisers of the "Invincible" class are really battle-ships, with a battle-ship's armament, greater speed, but somewhat reduced protection, and that vessels of this enormous size and cost are unsuitable for most of the duties of cruisers, and that an admiral having "Invincibles" in his fleet will be certain to put them in the line of battle, where their comparatively light protection would be a disadvantage and their high speed of no value.

Chapter II. is devoted to foreign navies, and Mr. Brassey gives interesting details, as far as they are known, about the new large battle-ships now being laid down abroad. A considerable amount of partisan capital has been made out of the assertion that all foreign Powers are copying the "Dreadnought"; but this is apparently what foreign Powers are not doing, except in so far that they have followed our example in increasing the displacement of their new ships, so as to bring them up to, and in many cases making them superior to, her in size. The two chief characteristics of the "Dreadnought," in addition to her heavy displacement, are her armament, in which only one type of heavy gun is found and the secondary battery has been entirely abandoned, and her "superior speed." But in the six ships of the new French "Voltaire" class, in the Japanese "Aki" and "Satsuma," in the approved designs of the new Russian ships, the armament adopted is not that of the "Dreadnought," but rather that of the "Lord Nelson," slightly heavier, and in the case of the Japanese ships, with the secondary battery of 6-inch guns retained, while in speed they are all inferior to her. In regard to the new German ships, Mr. Brassey, apparently, has no reliable details to give.

Chapter III., which is also contributed by Mr. Brassey, is devoted to a survey of "comparative strength," and he thinks that the Admiralty were justified in dropping one ship out of the building programme; but he points out that in view of what other Powers are doing, our present

predominant position as regards battle-ships will soon be lost and that at the end of 1908 we shall be barely up to the two-Power standard, and that next year the vote for new construction must be increased. And here we find the place of the second naval Power in the world assigned to the United States. The third place the writer appears to give to Germany, putting France fourth; but although the United States now comes next to ourselves—a fact which we do not think is as yet generally recognised—the German Navy, in our opinion, whatever it may do in the future, is hardly yet superior to that of France, while in some respects, notably in that of armoured cruisers, it is considerably behind.

Mr. Brassey rightly questions whether the withdrawal of our cruisers from certain foreign stations has not been carried too far, pointing out that we cannot afford to leave our commerce in any quarter of the globe at the mercy of any small cruiser or armed merchantman. In the Pacific, for instance, British interests are certainly not adequately protected by a small sloop like the "Shearwater," the only vessel flying the White Ensign now to be found on that vast station.

"No second-class cruisers," writes Mr. Brassey, "are being constructed for any Navy. Germany, the United States, and Japan are all building third-class cruisers"; but it must be borne in mind that the new German and American third-class cruisers are larger than our second-class cruisers of the "Scylla" class, with considerably more speed, although their armament is weaker. "For the protection of the commerce and interests of the Empire," he continues, "more especially on extra-European stations, medium-sized cruisers to replace the vessels which are being rapidly removed from the Navy List appear to be urgently required. "Invincibles" are obviously unsuited for this purpose. They cannot be built in sufficient numbers, and it is a waste of power to employ an "Invincible" (with a battle-ship's armament and protection) against cruisers less, perhaps, than one-fifth of her size. The main objection urged against the building of medium-sized cruisers is that they are liable to capture by an "Invincible." That a medium-sized cruiser could not fight an "Invincible" is obvious, but the chance of meeting an "Invincible" is small." In the above remarks Mr. Brassey is practically voicing the opinion of nine out of every ten officers who have given a thought to the subject.

Chapter IV. is an interesting and thoughtful anonymous article on British Shipbuilding Programmes. Dealing with the question of the construction of the "Dreadnought" and the "Invincible" class of cruisers, the writer holds that "it was unwise of the Admiralty to take a new departure, and by its action to compel the attention and rivalry of other naval Powers; it was all the more unwise as, at the end of 1904, our naval supremacy in completed ships was assured. Moreover, if the alleged superiority of the new types is real, then by introducing "Dreadnoughts" and "Invincibles" the Admiralty has reduced the fighting power and relative value of the pre-existing British fleet, although there may have been no intention to do so."

Chapter V., by Mr. J. Thursfield, is devoted to last year's naval manœuvres. Anything written by Mr. Thursfield is always worth reading, and commands attention, although we may not always agree with him, and we do not hold with his views in the present article. We do not propose to comment upon it; it must be read by those interested in the subject. In his concluding remarks, however, he observes "that the destruction of commerce in the face of a hostile command of the sea would probably be found in actual war to be a much more difficult business than the

manœuvres made it appear. If that is so, it would seem that the risks involved are not likely to be greater than could be covered by insurance, if only owners and underwriters can be induced to keep their heads." There are other experts, however, equally well fitted to give an opinion on this important subject, who hold that the views expressed by Mr. Thursfield are not only far too optimistic but are positively dangerous, and that under the existing disposition of our ships and our rapidly diminishing number of cruisers we shall have a very rude awakening as regards the destruction of our commerce should we suddenly find ourselves involved in a war with a great Power as well organised as, say, Germany is.

In Chapter VI. Mr. Leyland gives an interesting account of the French and Italian manœuvres of last year, which, however, does not call for any comment. The same able writer, in Chapter XI. contributes a very important article on the "Blue-Water School": Principles of Defence. The author refers to the confusion of thought which has existed, and unfortunately continues to exist, with regard to the relative functions of the Navy and the Army. This confusion of thought is particularly noticeable in the minds of certain military critics, one of whom characterised blue-water principles "as mere drivelling Charlatanism without any historical basis," while even so generally well-informed a writer as the military correspondent of the *Times* committed himself to the statement that "the extravagant claims of blue-water fanatics paralyse the efforts of this country to obtain the Army of its policy to match the Navy of its need." Mr. Leyland shows very clearly that opponents of the blue-water school have never grasped its principles. The fact being that the blue-water school does not pretend that we can do without an Army, or that the Navy can suffice alone; nor does "the blue-water doctrine exclude the necessity of providing an Army to unite with the fleet in its operations, and to achieve and enforce its victories." Mr. Leyland puts his case very cogently and very moderately, and he pleads for "a sounder co-ordination of the duties of the naval and military services than we have seen in the past, or than is yet visible in the future, and an end to that attitude of mind which has caused soldiers to act as if the Navy did not exist, with all its wasteful consequences." Mr. Leyland's article is a most valuable one, and cannot fail to do good, and is written in the tactful spirit which the author invariably displays in his contributions.

An interesting chapter also is No. VII. on the "Strategical Features of the North Sea" by a new contributor, Mr. P. A. Hislam, who is gradually acquiring a reputation for himself as a thoughtful writer on naval questions. He considers that the position of affairs in the North Sea, due to the growth of the German Navy, is much the same to-day as that which existed during our wars with Holland, and he arrives at the conclusion that "the main factor in an Anglo-German war, as it was in the Dutch wars of the 17th century, would be the absolute control which Great Britain —thanks to her geographical situation—holds over every trade route leading into the North Sea." Mr. Hislam gives an analysis of the available strength of the British and German Navies for the purposes of concentration in the North Sea, and of the strategical value of the ports likely to be involved in case of war; he does not consider Rosyth a good position for a naval base, and thinks more should be made of Sheerness, and that another base in the neighbourhood of the Orkneys is what we require. Mr. Hislam writes well, and his chapter will repay study.

In Chapter VIII. Lord Brassey contributes an interesting but somewhat controversial article, which he styles "In Gibraltar Bay"—Notes on

Naval Policy, written at the time our fleets were assembled in Lagos Bay, last February, under Sir A. Wilson, and in which he ranges over a somewhat wide field, dealing both with our own and foreign Navies, advocating again, as he has so often done on other occasions, the use of mercantile auxiliaries for commerce protection. With his concluding words all will agree: "To hold the command of the sea more is needed than professional skill. In the war in the East it was by force of character, by patriotic devotion, and by the skill and confidence which constant training alone can give, that Japan prevailed. These are the qualities by which the victories of the British Navy have been won in the past, and on which we must ever chiefly rely."

Chapter IX., on "Naval Reorganisation," is by an anonymous writer who traces the development of the schemes which are now being carried into effect, and it is valuable as a good summary of what has been done, besides being written in a moderate and non-partisan tone. Commander C. N. Robinson, in Chapter X., also contributes, as usual, a valuable and interesting paper on the "Laws of the Navy," which, besides giving a brief history of the Articles of War and of the Admiralty Instructions, sets forth the leading changes in the *status* and organisation of the *personnel* of the fleet, as exemplified in the latest issue of the King's Regulations and Admiralty Instructions.

Part II. of the Annual contains the usual tables of our own and foreign fleets, with plans of ships and also ordnance tables, while Part III. gives our own and foreign Estimates, as usual, with President Roosevelt's letter on United States battle-ships; also Lieut.-Commander Sims' report on "The Tactical Qualities of the 'Dreadnought' Type of Battleship," and concludes with a reprint from the *Speaker* of the review of the *Naval Annual* of 1903, by G. Shaw-Lefevre (now Lord Eversley), an old Admiralty official, which the Editor considers is worthy of the attention of the supporters of the present Government who desire economy in naval expenditure.

In conclusion, we must heartily congratulate Mr. Brassey on his latest issue of the Annual, which is one of the most valuable that has appeared.

PRINCIPAL ADDITIONS TO LIBRARY, SEPTEMBER, 1907.

La Toison d'Or. By Le Baron H. KERVYN DE LETTENHOVE. Demy 4to. 4s. (G. Vanoest et Cie.) Brussels, 1907.

The Waterloo Campaign. By J. MILLER-MAGUIRE. 8vo. (Presented.) (William Clowes and Sons, Ltd.) London, 1907.

Frontier Warfare and Bush Fighting. (Official.) 12mo. Calcutta, 1906.

The History of the North York Militia, now known as the Fourth Battalion Alexandra, Princess of Wales's Own (Yorkshire Regiment). By Major R. B. TURTON. 8vo. (Presented.) (Whitehead and Sons.) Leeds, 1907.

Text Book of Gunnery.—Part I. (Official.) (Compiled at the Ordnance College, Woolwich). 8vo. 2s. 3d. (Presented.) (Harrison and Sons.) London, 1907.

One Hundred Years' History of the 2nd Battalion West India Regiment, from the date of Raising, 1795 to 1898. Compiled by Colonel J. E. CAULFIELD. 8vo. (Forster, Groom and Co.) London, 1899.

The Cavalry in the Russo-Japanese War. By Count GUSTAV WRANGEL. Translated from the German by Lieut. J. MONTGOMERY, 3rd Hussars. 8vo. 2s. 6d. (Presented.) (Hugh Rees, Ltd.) London, 1907.

Waterloo. By Captain J. W. E. DONALDSON and Captain A. F. BECKE. 8vo. 2s. 6d. (Presented.) (Hugh Rees, Ltd.) London, 1907.

Wellington's Campaigns, Peninsula—Waterloo, 1808-15, also Moore's Campaign of Corunna. By Major-General C. W. ROBINSON. 8vo. (Presented.) (Hugh Rees, Ltd.) London, 1907.

Drummond's Winter Campaign, 1813. 2nd Edition. By Lieut.-Colonel E. CRUIKSHANK. 8vo. n.p., n.d.

Japanese Self-Taught. By W. J. S. SHAND. Crown 8vo. 2s. 6d. (Presented.) (E. Marlborough and Co.) London, 1907.

Tamil Self-Taught. By Don M. DE GILVA WICKREMASINGHE. Crown 8vo. 2s. 6d. (Presented.) (E. Marlborough and Co.) London, 1907.

Hindustani Grammar Self-Taught. 2nd Edition. By Captain C. A. THIMM. Crown 8vo. 2s. 6d. (Presented.) (E. Marlborough and Co.) London, 1907.

Administration, Organization and Equipment Made Easy. 7th Edition. By Lieut.-Colonel S. T. BANNING. Revised and brought up to date by Captain R. F. LEGGE. Crown 8vo. 4s. 6d. (Presented.) (Gale and Polden.) Aldershot, 1907.

Army Reform. By Sir CHARLES DILKE. Crown 8vo. (Servia and Paton.) London, 1898.

A Travers l'Afrique Centrale. Du Cap au Lac Nyassa. By ÉDOUARD FOÀ. Crown 8vo. (E. Plon, Nourrit et Cie.) Paris, 1897.

Souvenirs Militaires du Baron de Bourgoing, 1791-1815. Publiés par le Baron Pierre de Bourgoing. Crown 8vo. (E. Plon, Nourrit et Cie.) Paris, 1897.

Mémoires du Sergent Bourgogne, 1812-1813. Publiés d'après le manuscrit original par Paul Cohin. Crown 8vo. (Hachette et Cie.) Paris, 1898.

Mémoires sur les Campagnes de Russie 1812, de Saxe 1813, de France 1814 et 1816. Par Lieut.-Colonel COMBE. Nouvelle Edition. Crown 8vo. (E. Plon, Nourrit et Cie.) Paris, 1896.

La Guerre telle qu'elle est (Campagne de 1870-71). Par Le Lieut.-Colonel PATRY. Crown 8vo. (Montgredien et Cie.) Paris, n.d.

RECENT PUBLICATIONS OF MILITARY INTEREST.

COMPILED BY THE GENERAL STAFF, WAR OFFICE.

OCTOBER, 1907. PUBLISHED QUARTERLY.

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CONTENTS.

PREFATORY NOTE.

This Pamphlet will be issued quarterly, in April, July, October and January. Its purpose is to draw the attention of Officers to British and Foreign publications of Military interest which are likely to assist them in their professional work. Copies of the pamphlet will be distributed to the Headquarters of Commands, Educational Establishments, Units and Reference Libraries.

PART I.

NOTICES OF PRINCIPAL WORKS.

NOTE.—When the price is not given in Parts I and II, it is not known.

HISTORICAL.

History of the War in South Africa, 1899-1902. Vol. II. By Major-General Sir F. Maurice, K.C.B., and a staff of Officers. 656 pp., with maps in separate case. 8vo. London, 1907. Hurst and Blackett. 17/6 to subscribers, 21/- to non-subscribers.

This volume deals with the relief of Kimberley, the pursuit of Cronje, the battle of Paardeberg and the surrender of Cronje, Poplar Grove, Dreifontein, the occupation of Bloemfontein, Karee Siding, Sannah's Post, Reddersberg, Wepener, the relief of Ladysmith from the Spion Kop campaign to the end, and the defence of Ladysmith, including Wagon Hill and Cæsar's Camp (6th January, 1900).

The descriptions of the various engagements are clear, and the clearness is enhanced by the maps, which are very good. The Editors have made no comments, but have confined themselves to a statement of facts, supported by extracts from the various telegrams, despatches and orders. The book is written in an easy style which renders it very readable.

The Russo-Japanese War (Official Reports). Vols. I and II. Compiled by M. Kinai. 389 and 194 pp. 8vo. Tokio, 1905 and 1907. London, 1907. Kegan Paul. 4/- each volume.

These volumes contain the English translation of the Japanese Official Reports, naval and military, from the Declaration of War to the Imperial Rescript on the conclusion of peace, including the despatches from the seat of war. They are necessarily rather vague as regards the Japanese units, the expression "right detachment of the Right Column" being used for the 12th Division, etc., etc., and they should therefore be read after some knowledge of the operations has been acquired; but they will be of considerable use in the study of the war until the Japanese official account is issued.

Ten Months as a War Correspondent with Kuropatkin's Army (Zehn Monate Kriegskorrespondent beim Heere Kuropatkins.) By Oscar von Schwartz. 334 pp. Three sketch maps. 8vo. Berlin. 1907. Schröder. 6/-.

This is a work of considerable interest, and gives a very vivid picture of the Russian Army in War. The author describes himself only as special correspondent of the "Berliner Lokalanzeiger" (the equivalent in Germany of the "Daily Mail"), but a German review speaks of him as Oberlieutenant, and he himself mentions that he had served three years in China with the German contingent, and had to obtain leave from the Great General Staff to act as war correspondent. Not only was he a professional soldier, but he was further qualified for his task by being a good Russian scholar and by having sufficient knowledge of Chinese to converse with Manchurian peasants. These qualifications, and a black, white and red arm-band which he invented for himself as proof of his German origin, appear to have procured him very considerable freedom of movement in the theatre of war.

The author reached the front, at Ta-shih-chiao, at 4 a.m., on 5th July, 1904, to find the Russian troops already retiring on Hai-cheng, much to their chagrin and astonishment, as they were fully conscious that in the preceding day's fight they had been successful if not victorious. The order of retirement had been given just after midnight in consequence of the advance of the Fourth Japanese Army on the Ta-ku-shan-Hsiu-yen line, which threatened the left flank of the Zarubaiev's and Stakelberg's troops on the railway.

At Liao-yang Von Schwartz was attached to the Seventeenth Army Corps, which was north of the Tai-tzu Ho, east of the city. "At 4 a.m. on the morning of the 31st, Kuroki's passage of the river by night was, for a wonder, known, and Lieut.-Colonel A. appreciated the situation correctly that Kuroki had divided his army, and was in an exceedingly dangerous condition. Everybody expected that an advance would at last be made." From the Russian batteries the author saw with his own eyes the pontoon bridge by which the Japanese were crossing; yet orders were given that not a shot was to be fired; as many Japanese as possible were to be allowed to cross and then they were to be pushed back into the river. He asked the Chief of the Staff when the great attack would take place, and was informed, "Not to-day, perhaps in two or three days." He then rode to the south front of Liao-yang where the noise of firing and bursting shells was terrific, "yet there was so little to be seen of troops, that one could imagine that a combat was taking place between spirits in the air."

Some of the Army Corps generals did not like the siting of the fortifications constructed round Liao-yang, and placed their troops elsewhere. Perhaps this is not to be wondered at, as one of the constructors of them was "a reserve officer—a

hydraulic engineer, who, as he himself told me, had not the remotest acquaintance with military entrenchments before the war."

Rumour after rumour disturbed the peace of mind of the Russians: the Umezawa Brigade at Ping-tai-tzu became an army of Hung-hu-tzu led by Japanese which barred the road to Mukden; Kuroki was reinforced by nine divisions from the skies, &c., &c., and the Russians left the positions from which the Japanese had in vain attempted to expel them. At first the retreat was orderly, but soon degenerated into a rout. "The proud Russian Army was dissolved into a black-grey human flood of soldiers, horses, guns, carts, women, children, Chinese and settlers. It no longer consisted of troops capable of resistance; it was the pitiable remains of an army annihilated without being conquered."

Some officers of the only two regular cavalry regiments which were in Manchuria stated to the author that the reasons why more Russian regular cavalry was not sent to the front were: the horses required so many railway trucks; they could not stand the Manchurian climate nor Manchurian forage; their hoofs went to pieces in the plains, and they were useless in the hills.

The Cossacks are described as mere Russian Hung-hu-tzu.

The offensive movement of the Russians, which resulted in the battle of the Sha Ho, came to a sudden stop after three or four days' advance, because "far and wide nothing was to be seen of the enemy."

The author, like other observers, has a poor opinion of the reservists. "It struck me particularly (as they went into action) that these bearded warriors were deadly pale and trembling . . . . their thoughts, no doubt, were with their wives and children." An officer said to him on one occasion, "You see now for yourself what a rabble (Lumpengesindel) our reservists are."

It is stated that the Russian troops were not demoralized after the Sha Ho as they were after Liao-yang, and Von Schwartz draws the conclusion that "an unsuccessful defence easily leads to total loss of *moral;* an unsuccessful attack has rarely this result. Therefore, ten times rather risk an attack, even if it has only a small prospect of success, than resort to a passive defence."

The author returned to Germany at the beginning of 1905; a tin box containing his photographs and papers was stolen on the journey.

The Russo-Japanese War: Opinions and Observations of Combatants and Spectators (Der Russischjapanische Krieg: Urteile und Beobachtungen von Mitkämpfern). Reprints from O. M. Z. 154 pp. 22 sketch maps. 8vo. Vienna, 1906. Seidel. 3/-.

This is a reprint of various articles on the war obtained from official or foreign, mainly Russian, sources which have appeared in "O.M.Z." They form a very useful body of material for study, not of the mere history but of the causes of the victories and defeats. Included among them are:—Appreciation of the Russian Army by a Japanese general before the commencement of hostilities; five instructions issued by General Kuropatkin in April, 1904; the characteristics of the Japanese Army by a European officer; twelve detailed accounts of the part taken by smaller units in various actions, written either by the Austro-Hungarian attachés or Russian officers, *e.g.*, the attack of the 19th East Siberian Rifle Regiment on Putilov Hill in the battle of the Sha Ho, the 11th East Siberian Mountain Battery at the battle of Mukden. Of particular interest are the reports, said to have been drawn up in October, 1904, of the Chiefs of the Staffs of the 3rd, 4th, and 6th Japanese Divisions, on the subject of the attack of fortified position; careful reconnaissance, a definite plan, clear orders, and a deliberate unhurried advance seem to be the secrets of success. The volume closes with some remarks on night attacks by a Japanese officer, and two lectures on the war by Austro-Hungarian attachés with the Japanese and Russian armies respectively. Captain Stanislaus Graf Szeptycki, who was with the Russians, does not hold the opinion that their cavalry was bad, and doubts whether other cavalry would have done better. It could not engage other cavalry because the Japanese horsemen did not come out to fight it, it could not reconnoitre with success because the armies were generally stationary and it was unable to pierce a standing outpost line, in fact everywhere it went it met infantry. When the Japanese were in motion it reported their movements accurately:—Kuroki's passage of the Tai-tzu Ho was reported at once by Lieut. Romanov, of the 51st Dragoons, and the advance of Nogi in three columns at the battle of Mukden was reported on the morning of the 27th March.

The plan of collecting together the various articles on the war is much to be commended.

The Russo-Japanese War (La Guerre Russo-Japonaise). By Major Loeffler. 330 pp. 10 maps in black and white. 8vo. Paris, 1907. Berger-Levrault. 6/4.

This is a French translation of the work of Major Loeffler, of the Royal Saxon General Staff, which appeared in 1905. It contains a narrative and criticism, and the last sixty pages are devoted to a consideration of the lessons to be learnt from the war. The book has had a very considerable success in Germany, where the Clausewitzian principles upon which the author bases many of his criticisms, are more appreciated than they are in Great Britain.

Major Loeffler considers that Kuropatkin is a second Benedek, whose ill-luck placed before him at the close of a useful and successful life a task to which he was by nature unequal. He blames the Japanese for having had too much respect for the Russians, which led them to commence operations in Korea rather than to disembark at once in the Liao-tung Peninsula close to Port Arthur. He attributes the success of the Japanese to their superior instruction and spirit.

Japan's Strife and Victory (Japan's Krieg und Sieg). By Colonel Gädke. 347 pp. 6 coloured plates, numerous maps and plates in black and white, and reproductions of photographs. Folio. Berlin, 1907. Schall. 20/-.

Colonel Gädke was military correspondent of the "Berliner Tageblatt" with the Russian army in Manchuria; his impressions in that capacity have already been published under the name of "Kriegsbriefe aus der Mandschurei." The present volume is a popular account of the war. The maps are very clear, and the photographs of officers, scenery, and incidents are of great interest; the book is, however, disfigured by a number of plates illustrating assaults and hand-to-hand fighting, which are purely the product of the artist's imagination.

The War between Russia and Japan (Der Krieg zwischen Russland und Japan). By Captain (retired) W. E. Kalinowski. 562 pp. Numerous sketch maps. 8vo. Berlin, 1904 and 1905. Liebel. 9/6.

This compilation gives a singularly clear and lucid account of the operations, so far as material was at the time available for the purpose.

Lessons from the Russo-Japanese War. (Изъ опыта Русско-Японской войны.) By Captain A. Neznamov. 2nd edition. 130 pp. 8vo. St. Petersburg, 1907. H. Stoikovoi, 27 Znamenskayo Ul. 2/9.

A commonplace work containing little that is either new or original. As in many similar Russian publications, more space is devoted to criticism of the drill-books than to useful deductions from actual incidents of the war. Chapter IV., which deals with mountain warfare, is, however, interesting in a general sense and may provide food for reflection.

The Waterloo Campaign. A Study by Lieutenant-Colonel S. C. Pratt, late Royal Artillery. 219 pp. Plans, &c. 8vo. London, 1907. Swan Sonnenschein. 5/-.

This is the latest addition to the Special Campaign Series to which the author of this book contributed the first volume, entitled "Saarbruck to Paris."

As Colonel Pratt remarks, the book is only "a brief study of a notable campaign," but he has consulted a considerable number of authorities such as Houssaye, Ropes, Pollio, Grouard, etc., and the result is a readable and clear narrative of the campaign. The book will be useful to the student of the campaign, and will be especially so if used in conjunction with the works of Houssaye and Ropes. The maps are chiefly taken from Houssaye, but it has been observed that in several cases the spelling of the names of places is not the same in the text and on the maps.

Waterloo Lectures. A Study of the Campaign of 1815. By the late Colonel C. C. Chesney, R.E. 251 pp. 8vo. London, 1907. Longmans Green. 6/-.

A new edition.

The Cambridge Modern History. Vol. IX. Napoleon. 899 pp. 8vo. Cambridge, 1906. University Press. 16/-.

This is perhaps the most important, from a military point of view, of the volumes of this History. It contains chapters on "The Command of the Sea, 1803-15," by H. W. Wilson; on "The Third Coalition, 1805-6-7," by Colonel E. M. Lloyd, late Royal Engineers; on "The War of 1809," by Major-General A. Keim, retired (German Army); on "The Peninsular War. 1808-14," by C. W. Oman; on "Russia under Alexander I and the Invasion of 1812," by E. Stschepkin; on "The War of Liberation, 1813-4," by J. von Pflugk-Harttung; and on "The Hundred Days, 1815," by C. W. Oman. In addition, there are chapters on the political and national questions of the period 1799-1815. Students of the Napoleonic campaigns will find the bibliography given at the end of the volume most useful and interesting. An excellent index adds to the value of the work, as also does the Chronological Table of Principal events on page 894. There are no maps.

Napoleon's Men and Methods. By A. L. Kielland. Translated by J. McCabe. 356 pp. 8vo. London, 1907. Owen. 10/-.

As Mr. Oscar Browning says in the preface to this book, "the history of Napoleon is of inexhaustible interest," and this is especially the case where soldiers are concerned. This book does not pretend to be more than a study of Napoleon, but it is an interesting one. It traces Napoleon's career from 1796 to 1815 and the author touches on the characters and attainments of most of his marshals. The descriptions given of the principal battles in the period referred to are not of great value, but nevertheless the book is worth reading, and though it throws no new light on Napoleon's methods from a military point of view, yet it gives a clear idea of his way of dealing with men.

The book is written in an easy style which makes it very readable. The author is a Norwegian.

Nine Months' Campaigning with Marshal Soult (Neuf mois de campagne à la suite du Maréchal Soult). By Colonel J. B. Dumas. 606 pp. One map. 8vo. Paris, 1907. Lavauzelle. 6/-.

This work deals mainly with the principles which govern the use of covering forces. The author inveighs against the defensive attitude which is generated by a long peace, and points out that mobility, and power and readiness to take the offensive, constitute the only efficacious attributes of a covering force—"Security is not attained by a system of observation without power of action." These conclusions are illustrated by examples given by Marshal Soult at Pampeluna, Saint Sebastian, Bayonne, Bordeaux, Orthez and Toulouse during the course of the campaign in Spain of 1813 and 1814.

Narrative of the Field Operations connected with the Zulu War of 1879-1881. Official. 174 pp. With maps. 8vo. London, 1881. Reprinted 1907. Stationery Office. 3/-.

A reprint of the former publication.

The Campaign of 1866 in Germany. Compiled by the Department of Military History of the Prussian Staff. Translated by Col. von Wright and Captain Hozier. 648 pp. With portfolio of maps. 8vo. London, 1872. Reprinted 1907. Stationery Office. 6/-.

A reprint of the original edition.
It is recommended to officers for the study of this campaign.

Moltke's Strategy in 1870. (La Stratégie de Moltke en 1870.) By Colonel Palat, Chief of the Staff, 17th Army Corps. 400 pp. 22 maps. 8vo. Paris, 1907. Berger-Levrault. 8/4.

A careful study of Moltke's correspondence and of the Prussian General Staff publications, has convinced the author that many operations in 1870, planned by Moltke, are far from being as perfect as they have hitherto been regarded. Many new lights are thrown on the war of 1870. The great part played by Moltke is, however, recognised, and is, it is claimed, for the first time truly represented.

The Naval Campaign of 1805 (La Campagne Maritime de 1805). By E. Desbrière. Historical Section of the French General Staff. 229 pages, with Appendix 389 pages. Several small maps, 5 large maps in pocket. 8vo. Paris, 1907. Chapelot. 19/2.

As apology for the appearance of another work on such a well-worn subject, the author states that a correct understanding of the campaign has not yet been arrived at. He recognises in the Russian tactics at Tsu-shima traces of the erroneous conceptions concerning Nelson's tactics at Trafalgar (especially the relative advantages of attacking in line or in column) which prevailed in all navies after that battle.

POLITICAL.

The questions of the present time which influence European Foreign Policy (Les questions actuelles de politique étrangère en Europe). By various French writers. 296 pp. Nine maps. 8vo. Paris 1907. Félix Alcan. 2/8.

This is a collection of lectures given at the meetings of the Society of foreign pupils of the Free School for Political Science. The questions which form the subject of the five lectures are those of the foreign policies of England and Germany, the Austro-Hungarian question, Macedonia and the Balkans, and the Russian problem. The book takes a far shorter time to read than would appear from the number of the pages; and the treatment of the subjects is concise and clear.

After the Anglo-Japanese Alliance (Nach dem englischen-japanischen Bündnis). By Dr. Hans Plehn. 214 pp. 8vo. Berlin, 1907. Carl Curtius. 3/6.

From the manner in which the author presents to his fellow-countrymen, in this interesting book, the social, political and psychological factors on which English politics are based, it is evident he must have spent some considerable time in England studying world politics from a British standpoint, and closely observing our social life. The trustworthy information which he has collected should enable our cousins over the North Sea to judge our policy in a fairer spirit, and to grasp the real trend of international politics.

Emperor William 2nd and King Edward 7th (Kaiser Wilhelm II und König Eduard VII). By Rudolf Martin. 95 pp. 8vo. Berlin, 1907. Dr. Wedekind. 3/-.

This book merits attention, not only on account of the views expressed with respect to the future of Germany and the relations between Great Britain and the German Empire, which views are typical of the opinions held by influential classes of German society, but also because the author is a German Government official (*Regierungsrat*), who is credited in Germany with an accurate knowledge of international affairs and with sound judgment.

Two chapters of the book are devoted to an examination of King Edward's influence over the foreign policy of his country. He is credited with holding the reins of British foreign policy in his own hands, and, in consequence, with intent to bring about the isolation of Germany and a check on her world policy by forming a strong coalition of Powers against her. Germany, the author states, will reserve to herself the right of making war at the first sign that her interests and national honour are menaced, and owing to the fact that she will shortly have command of the air, will overthrow any coalition which may oppose her. This, in the face of the recent trials with the "Gross" airship, published in the press, is a statement not without interest.

The author concludes by saying that the war between Germany and England will lead to the Greater Germany of the future.

The publication has been much censured in the German press as being a bad book likely to forewarn or forearm the enemy of Germany in a way that no patriotic German would wish.

NAVAL.

The Navy and Coast Defence (La Marine et la défense des Côtes). By Vice-Amiral Melchior. 158 pp. 8vo. Paris, 1907. Berger-Levrault. 2/1.

This book is a protest against the law passed in 1900 which made the War Minister responsible for the coast defence of France and her colonies. Admiral Melchior urges that the "maritime coast defences" should be controlled by the navy. Under this heading he includes:—

1. Naval forces.
2. Torpedo craft and submarines.
3. Torpedoes, mines, and booms.
4. Coast batteries and forts.
5. The garrisons of naval bases.

He would only give the military authorities control of the mobile land forces, whose duty it is to deal with hostile landings.

In support of his comprehensive claims for naval control, he points out that all the five agents for coast defence enumerated above have for their object the destruction of the enemy's ships and should therefore be under one control, and as in the case of the first two the control must be naval, it should also be naval in the case of the last three.

He attributes all the defects in the French system of coast defence, such as the number of types of guns used for coast defence and the want of co-ordination between the two services, to the military authorities.

Naval strategy is dealt with, and the tendency to trust to torpedo craft and submarines, with their small radius of offensive action, is deprecated.

Fighting Ships, 1907 By F. T. Jane. 475 pp. with many diagrams. 4to. London, 1907. Sampson Low. 21/-.

The 1907 edition of this well-known publication.

Are our Coast Defences Sufficient? (Genügt unsere Küsten-Verteidigung?) By Vice-Admiral a. D. Galster. 19 pp. 8vo. Wilhelmshaven, 1907. Carl Lohse Nchfl. Hornermann and Eissing. /9.

A short and well-written plea for more expenditure on coast defences in Germany, especially for the modernizing of forts and the immediate fortification of the island of Borkum and the mouth of the Ems. The author's point is that a good system of coast defence liberates the battle fleet for independent action.

CAVALRY.

Cavalry Studies: Strategical and Tactical. By Major-General D. Haig, C.V.O., C.B. 333 pp. With maps and sketches. 8vo. London, 1907. Rees. 8/6.

This volume, in the words of the author, "has grown out of Five Staff Rides which took place under my direction when Inspector-General of Cavalry in India (1903-6)."

In his introductory chapter General Haig impresses on his readers the fact that the rôle of cavalry, far from having diminished, has increased in importance. He sums up the services which cavalry ought to and can render as follows:—1. During the period of concentration: concealing and protecting the strategic front of armies; threatening and disturbing the adversary's base and communications; indicating the objective. 2. During the march of approach: Surrounding the columns with a vigilant network, clearing their path and tearing away the veil spread before them. 3. On the field of battle: Surprising the hostile artillery and reducing it to silence, protecting the head and flank of its own army, covering its deployment and disturbing or retarding that of the enemy; taking part in the assault and gathering the fruits of a long contest. 4. It completes the victory or creates disaster, undertakes the pursuit or covers retreat. "It both introduces and consecrates success. But in all cases the combat with its proper rival is its inevitable prelude."

In Chapter II., which is also really an introductory chapter, the author gives the organization of a Cavalry Division as composed in these studies, of the enemy's cavalry, and of the duties of the Staff, with some remarks with regard to orders.

The first study in this book deals with the action of a Cavalry Division covering the advance of an Army Corps as part of an invasion on a double line of operations across a river frontier, and it describes the movements and action of the Division for six days. During this period there are engagements with the enemy's cavalry, the crossing of two rivers (the Chenab and the Jhelum), and finally an infantry fight with the enemy, in which the Cavalry co-operates and after which they pursue.

The second study is the employment of independent Cavalry Divisions to follow up a defeated hostile army to ascertain its intentions and its movements, and to prevent its escape. The country in this study is that round Delhi. An interesting feature of this study is the method of supplying the Cavalry Division. A study of the operations of the German Cavalry in August, 1870, is included.

The third study is the employment of the Cavalry Division and of the Army Cavalry up to the "decisive battle"; strategical preparation, etc. In this case the country over which the operations take place is near Aurangabad. The study closes with the co-operation of the cavalry in the general counterstroke.

In the fourth study the general idea is the same as that of the third, but the operations are those of a containing force in the "secondary theatre of war" near Hyderabad. This study also contains notes on Eugène's campaign in Italy, 1809, and ends by calling attention to "*moral*—the basis of success in war."

The fifth study is the strategical employment of cavalry covering the concentration of the main army to one flank. It commences by a review of the campaign of Ulm, 1805, drawing attention to Napoleon's use of his cavalry. It includes the attack of a Cavalry Brigade clearing the passage of a defile by force, the crossing of the Indus and the covering of a deployment, and the hindering of the advance of an Infantry and Artillery Column by a Cavalry Division. It also contains notes on supply.

Appendices contain notes on the work done on the Staff Rides, and on the organization of a Staff Ride and a few specimens of tasks set.

This is a book which should be of great value, not only to cavalry officers, but to the army generally. It is admirably edited, has numerous and excellent sketches and maps, with the result that the operations are easy to follow.

The Swiss Cavalry (Die schweizerische Kavallerie). By Col. Markwalder. 206 pp. 8vo. Aarau, 1906. Sauerlander. 5/-.

This is a book which should be of interest to all cavalry officers, in particular to those belonging to the Imperial Yeomanry, on account of the many points of similarity between the organization of the Swiss cavalry and the mounted units of our proposed Territorial Army. The first part deals generally with the employment and distribution of the mounted arm, pointing out, with regard to Switzerland, that the political and topographical conditions of the country make the maintenance of a large force of cavalry both impossible and unnecessary. The second part deals with the training of horses and men of the mounted branch.

ARTILLERY.

The Modern Ordnance of Foot Artillery. Part I. Embracing the period from the invention of rifled guns up to the introduction of smokeless powder, 1850-1890. (Die modernen Geschütze der Fussartillerie. I Teil. Vom Auftreten der gezogenen Geschütze bis zur Verwendung des rauchschwachen Pulvers. 1850-1890.) By Mummenhoff. 178 pp., with 50 illustrations. 12mo. Leipzig, 1907. Göschen. 10*d*.

The first three chapters deal with the early development of smoothbore and rifled ordnance of fortress and siege artillery, together with their mountings and ammunition, and cover the period up to the Franco-German War. Chapter IV. compares the ballistic performances of smoothbore and rifled guns. Chapters V. and VI. briefly discuss the employment of the French and German foot artillery during the war of 1870, as well as the changes introduced on the strength of the experience gained in that campaign. Chapters VII. and VIII. cover the period from 1875-1890, and contain descriptions of the principal calibres, fuzes, natures of propellant, etc., introduced into the German Army. Chapter IX. is a short summary on artillery fire from guns and mortars with different natures of projectile.

The book concludes with some data regarding ordnance of foreign powers.

Modern Guns and Gunnery, 1907. By Lieutenant-Colonel H. A. Bethell, Royal Field Artillery. 345 pp. with numerous plates. 8vo. Woolwich, 1907. Cattermole. 12/6.

This is a second edition revised, brought up to date and considerably enlarged, of a previous publication by the same author. The main changes are the addition of descriptions of Q.F. guns of various nations, of fresh chapters on the theory and practice of indirect fire, and of various matters affecting practical gunnery.

GENERAL.

The Operations of War. Explained and illustrated by General Sir E. B. Hamley, K.C.B. New edition brought up to the latest requirements by Colonel L. E. Kiggell. 416 pp., with maps and plates. 4to. London, 1907. Blackwood. 30/-.

Colonel Kiggell explains in the preface that the strategical portion of this book (Parts I.—V.) required practically no revision, but that owing to the constant changes which occur in tactical methods it has been judged best to omit the original Part VI. In its place three new chapters have been inserted.

I. The Russo-Japanese War, 1904-5.
II. Detachments.
III. Notes on the study of Tactics.

The first of these chapters begins with strategical notes including a consideration of the general conditions affecting the transport of troops by sea, and of the Japanese and Russian plans of campaign. The narrative of events is then entered upon, concluding with comments, thus following the general plan of Parts I.—V. These comments, which are very instructive, should afford food for reflection to all students of strategy. Colonel Kiggell draws special attention to the question of Port Arthur, to the slowness of the advance on Liao-yang, and to the combination by the Japanese of the strategical offensive with the tactical defensive.

In the second chapter on detachments, Colonel Kiggell puts forward the view that the first question a commander should ask himself before deciding to send out a detachment is, "How will it be likely to affect my relative strength at the decisive point and time." Unless its effect is likely to be favourable in this respect it may be laid down as a general principle that the detachment would be injudicious. He further considers the occasions on which detachments may be used from a strategical point of view, quoting historical instances.

In the third chapter Colonel Kiggell deals with tactics, and after pointing out the interdependence between strategy and tactics, he shows how doubtful it is that great battles will in future last so long as did those in Manchuria. He puts forward the view that the long duration of these battles was greatly caused by the nature of the country, by the passive defence of the Russians, and by the strength of the entrenchments with the resulting extension of front, and is of opinion that it is improbable that such strong entrenchments will be met with in European warfare, except, perhaps, on a permanently fortified frontier.

He continues by observing that it is more useful for the student to note what are the principles of tactics that have stood the test of time rather than to ascertain what has been altered. To do this the student must study history and he will find there that the permanent factors in tactics are the influence of a commander, moral factors, mobility, combination, and fire power, together with the knowledge of the value of time in battle, of the proper use of reserves and of our own forces, so as to inflict the greatest losses on the enemy, while not fearing to incur losses ourselves. The chapter concludes with some observations on the relationship between offensive and defensive action, on surprise, and on the application of principles to methods.

It may be safely said that the additions by the present editor add considerably to the value of the book and will enable "The Operations of War" to retain its place in the list of standard military books.

Fortification: its past achievements, recent development, and future progress. By Sir George S. Clarke, G.C.M.G. 306 pp., with map and illustrations. 2nd edition. 8vo. London, 1907. John Murray. 18/-.

A new edition in which nearly one-half of the volume has been re-arranged and re-written. New chapters dealing with the general policy of land fortification and with the defence of Port Arthur have been added. The evolution of warships has been entirely recast, and an attempt has been made to represent it in pedigree form.

This book is already well known and appreciated, and it will be generally admitted that it is a work of considerable importance both for sea and land services, the value of which has been considerably increased by the additions mentioned above.

The Art of Reconnaissance. By Colonel D. Henderson, D.S.O. 167 pp. 8vo. London, 1907. John Murray. 5/-.

The first three chapters of this book deal with the larger aspects of reconnaissance and with the means of conducting it. It may be observed that the terms used in "Cavalry Training, 1907," are clearer and give a better idea of the object of the various reconnaissances than do those employed by Colonel Henderson.

In his chapter on the scout the author brings out the fact that a scout's chief duty is to acquire information and not to go through hairbreadth escapes if he can avoid them, and he points out how often the reputation of a scout is judged by the latter rather than by the former. This chapter contains a great deal of useful matter about scouting generally and hints for scouts in particular. It is on the whole the most valuable chapter in the book, and should be read by all interested in scouting and reconnaissance.

Colonel Henderson then passes to the duties of patrols, and gives in detail the formation and system which he advocates for independent patrols. He divides patrols, as he divided reconnaissance, into protective, contact, and independent.

In Chapter VII. he passes to the reconnaissance of ground. In this connection he points out the exaggerated importance which topography has attained, while it is really only a minor branch of reconnaissance.

The last chapter contains valuable matter on the subject of transmission of information, and Colonel Henderson points out that the first necessity is to ensure that every item of intelligence reaches the person who is able to utilize it to the greatest advantage. "This can only be done by a proper chain and system of transmission." He also points out how the value of reconnaissance depends on the ability of an officer to discern facts or make deductions which will be of value to his superiors, and how such discernment is chiefly acquired by sound military education.

The last half of the book is well worthy the attention of all interested in the details of reconnaissance and scouting.

Infantry Patrol duty and Reconnaissance work during action and in the face of the enemy. (Patrouillendienst, Gefechts-und Nahaufklärung der Infanterie) by Major Immanuel. 154 pp. Map. 8vo. Berlin, 1907. Mittler. 2/9.

Great stress is laid on the necessity of infantry reconnaissance work even during the progress of the action. Whilst there is not very much new matter in the advice given for carrying out these duties, some of the hints for training troops in these branches of their work in time of peace are good.

The arrangement of the book is convenient and concise.

Ten days with the Swiss Army. (Dix jours à l'armée Suisse.) By General Langlois. 121 pp. One map. 8vo. Paris, 1907. Lavauzelle. 1/8.

This book is divided into three parts:—

i. An outline of the Swiss Army organization.
ii. A diary of the author's visit to the Swiss manœuvres.
iii. Observations and conclusions.

The author in his preface states that France and Germany have adopted two essentially different systems as regards the nation in arms, of which that of the former has certain grave defects. He considers that the Swiss system affords an interesting comparison.

The working of the various arms during manœuvres is criticised, and useful conclusions are drawn.

The Conquest of the Air: The Problem of Aërial Locomotion. (La Conquête de l'Air. Le problème de la locomotion aérienne). By L. Sazerac de Forge, Capitaine breveté. 136 pp. Illustrations and figures. 8vo. Paris, 1907. Berger-Levrault. 8/-.

The author treats his subject in a clear and interesting manner. He first discusses the difficulties of aerial navigation and shows how many of these have been overcome lately by successive inventions culminating with those of M. Julliot, the inventor of the "Lebaudy" and the "Patrie" dirigible balloons, which he describes.

The author claims for France the first place in the science, and reviews the poor results of the efforts made in other countries to "conquer the air."

Aeroplanes, which the author thinks have a great future, are considered.

After dealing with the apparatus, Capt. Sazerac de Forge passes on to the study of its employment for commercial, exploring, and above all for military purposes.

He finally deals with the vulnerability of dirigible balloons.

Studies in the Leading of Troops. By General von Verdy du Vernois. Vol. I. The Infantry Division as a Part of an Army Corps. Revised by Colonel von Gossler, and translated by Lieutenant-Colonel W. Gerlach, U.S. Army. 359 pp., with maps and plans. 8vo. Kansas City, 1906. Hudson Press. 7/6.

This is a new translation of this well-known work.

War and the World's Life. By Colonel F. N. Maude, C.B., late Royal Engineers. 424 pp., with diagrams. 8vo. London, 1907. Smith Elder. 12/6.

The object of this book given by Colonel Maude is "to establish a reasonable ground for confidence in the superior strength of the sentiment (duty)," and again, "it is the hope of, in some measure, assisting the nation to realise its

possibilties, that has nerved me to the compilation of this book." In pursuance of this object all through the book he insists on the "psychic test," as applied to military needs, and agrees with the idea held in some parts of Europe that the decisive factor of the situation is the will power, the "thought wave," of the whole population which is finally embodied in the Army itself.

Colonel Maude does not advocate compulsory service, but he points out the benefits which accrue to industry from military training, and shows the value of an army as a preparatory school for the battle of life. He thinks that once the nation can be brought to realise the effect of a successful occupation of London and the great manufacturing towns by an invader we need not fear that voluntary service will fail us. He treats of the problem of invasion and elaborates the point that "a Navy alone can never be relied on to preserve the Peace, because of itself it is incapable of bringing the last supreme argument of force home to the very hearts of inland peoples," and, that, therefore, "our truest guarantee would be a well-trained Army numerically sufficient to ensure respect." To meet our needs Colonel Maude elaborates a plan for including the Colonies (Canada especially) in our military organization, and for the interchange of corps between them and the United Kingdom combined with a scheme of military colonization. His proposals are interesting, but the difficulties in their way are very great.

He also discusses the question of training for the higher commands and suggests the creation of a military history section of the General Staff, through which all officers destined for higher commands should pass. He insists on the importance of drill and of teaching troops to rely on themselves and their immediate superiors. With some of the points made in the book we do not find ourselves in agreement, but it is decidedly worth the attention of the Army in general. It may be mentioned that his calculations on page 309 appear decidedly optimistic, and it may also be observed that, while in one part of the book Colonel Maude brings instances to show how preparations have been made abroad for mobilization without public knowledge, and points out how things can reach a climax with much greater rapidity than heretofore, yet in his suggestions he says "other units required could be arranged for at the outbreak of hostilities, they would not be needed for several months," for he thinks that an invading force, after a possible first success, would in the end be beaten and forced to surrender, since the Navy would prevent reinforcements reaching it, and that there would ensue a prolonged period of inaction, during which the Empire would gather strength for its final spring.

The Chinese Language and how to learn it. By Sir Walter Hillier, K.C.M.G., C.B. 263 pp. 8vo. London, 1907. Kegan Paul. 12/6.

The author is one of the few foreigners who have an expert knowledge of the Chinese language, having spent nearly 30 years in the Consular Service in China and Korea. He was Special Political Officer for Chinese Affairs during the Boxer Campaign in North China, and is, at present, Professor of Chinese at King's College, London.

This work has come to supply a long-felt want, viz., a stepping-stone to Sir Thomas Wade's "Tzu Erh Chi," and is especially intended for the use of army officers and others who may wish to commence the study of the language in England, with a view to continuing it in China. The number of Chinese characters introduced has purposely been limited to one thousand, in addition to some of the many combinations they can be made to form. A thorough knowledge of this book will supply the student with a sufficiently large stock of colloquial terms to enable him to make his ordinary wants known.

Camps of Instruction, 1906. Reports of Officers of the United States Army. 269 pp. 8vo. Washington Government Printing Office, 1907.

Contains much that is practically instructive in connection with camp sanitation.

Part II.

OTHER WORKS NOT DEALT WITH IN PART I.

A.

Aerial Motor Navigation, the Age of. (Das Zeitalter der Motorluftschiffahrt.) By Rudolf Martin. 101 pp. Illustrated. 8vo. Leipzig, 1907. Thomas. 4/-.

Africa, German, S.W., Official advice for Emigrants. (Deutsch Südwest Afrika. Amtlicher Ratgeber für Auswanderer.) 106 pp. 8vo. Berlin, 1907. Remer. 1/-.

Africa, German, S.W., the Fighting in. ((Die Kämpfe der deutschen Truppen in Südwest Afrika.) German General Staff. 140 pp., with maps and illustrations. 4to. Berlin, 1907. Mittler. 4½d.

Ammunition Hoist, Instructions for Working the 8·8 cm., with Cradle (Steam). [Bedienungsvorschrift für 8·8 cm. Munitionsaufzug mit Fahrstuhl (Dampf).] Official. 10 pp. 8vo. Berlin, 1907. Mittler. 4d.

Artillery, Field, Drill Regulations for. (Exerzier Reglement für die Feldartillerie.) Official. 218 pp., with plates. 8vo. Berlin, 1907. Mittler. 2/-.

Artillery, Field, Practice Regulations for. (Schiessvorschrift für die Feldartillerie.) Official. 132 pp. 8vo. Berlin, 1907. Mittler. 1/6.

Autobiography of a Military Great Coat (an account of the 1st Norfolk Volunteer Active Service Company in S. Africa, 1900-1). By H. Josling. 425 pp. 8vo. London, 1907. Jarrold. 6/-.

B.

Berlin Congress, The way to the. (Der Weg zum Berliner Kongress.) By Rittmeister A. Spaits. 944 pp., with illustrations. 8vo. Vienna and Leipzig, 1907. C. W. Stern. 1/8.

Brod to Sarajevo. (Von Brod bis Sarajevo.) By Col. G. v. Holtz. 194 pp., with illustrations and map. 8vo. Vienna and Leipzig, 1907. C. W. Stern. 3/-.

C.

Campaign in Bohemia, 1866. By Lieut.-Col. G. J. R. Glünicke. 221 pp., with maps and plans. 8vo. London, 1907. Swan Sonnenschein. 5/-.

Cavalry, Russian and Japanese, in the War in Manchuria (Restons en selle. La cavalerie russe et la cavalerie japonaise dans la guerre de Mandchourie). 8vo. Paris, 1907. Berger Levrault. 7½d.

Chinese Characters, One Thousand Useful. By Sir Walter Hillier, K.C.M.G., C.B. 55 pp. 8vo. London, 1907. Kegan Paul. 1/-.

Cyprus, a Handbook of. By Sir J. T. Hutchinson and C. D. Cobham, C.M.G. 128 pp., two maps. 8vo. London, 1907. Stanford. 2/6.

D.

Dickson Manuscripts, being diaries, letters, etc., of the late Maj.-Gen. Sir A. Dickson, G.C.B., R.A. Series C. 1809-1818. Chap. II., 1810. Edited by Major J. H. Leslie, R.A. 194 pp. with a map and illustrations. 8vo. Woolwich, 1907. R.A. Institute. 2/6.

Dutch War, the First, Letters and Papers Relating to. 1652-1654. Edited by S. R. Gardiner and C. T. Atkinson. 452 pp. 8vo. London, 1906. Navy Record Society. 12/6.

E.

Electric Lighting and Heating, Pocket Book of. By S. F. Walker, R.N. 416 pp., with diagrams and illustrations. 12mo. London, 1907. Crosby Lockwood. 7/6.

F.

France's Preparedness for War (Frankreichs Schlachtschwert). By a German Field Officer. 110 pp. 8vo. Leipzig, 1907. T. Weiche. 1/2.

Friedrich Wilhelm I. and Leopold I. of Anhalt Dessau. Series "Educators of the Prussian Army" (Erzieher des Preussischen Heeres). By Lieut. R. Linnebach. 120 pp. 8vo. Berlin, 1907. Behr. 2/-.

G.

Gun, the, and its Development. By W. W. Greener. 8th edition, re-written. Illustrated. 764 pp. 8vo. London, 1907. Cassell. 10/6.

Gunners, Modern Instruction of (Instruction moderne des Canonniers). By Captain G. Clerc. 54 pp. 8vo. Paris, 1907. Berger Levrault. 1/0½.

H.

Hygiene, Military (Hygiène Militaire). Part IX. of Brouardel and Mosny's Traité d'Hygiène. By Médecin-Major J. Rouget and Médecin-Major C. Dopter, assistant professors at the Val de Grâce. 348 pp., with plates. 8vo. Paris, 1907. Baillierè. 6/-.

I.

Industrial Progress in Germany, Cause and Extent of. By E. D. Howard, Ph.D. 147 pp. 8vo. London, 1907. A. Constable. 4/6.

Infantry of the 18th Century (L'Infanterie au XVIII. siècle. La Tactique). Historical Section of the French General Staff. 282 pp., with 5 plates. 8vo. Paris, 1907. Berger-Levrault. 5/-.

M.

Moltke. Series of Educators of the Prussian Army (Erzieher des Preussischen Heeres). By General of Infantry v. Blume. 125 pp. 8vo. Berlin, 1907. Behr. 2/-.

N.

Napoleon, Moltke, and Fortification (Napoleon, Moltke, und die Festung). By Lieut.-Colonel Frobenius. 60 pp. 8vo. Berlin, 1906. Bath. 1/2.

Napoleon and the Invasion of England. By H. F. B. Wheeler and A. M. Broadley. 2 vols. 316 + 346 pp., with plates. 8vo. London, 1907. Lane. 32/-.

Naval Pocket Book. By G. Laird Clowes. 938 pp., with plans. 12mo. London, 1907. Thacker. 7/6.

O.

Organization and Tactics of the Three Arms. Infantry. 1st Part. Infantry of the 18th Century. (Organisation et tactique des trois Armes. Infanterie. 1 fascicule. L'infanterie au dix-huitième Siècle.) By Commandant Colin. 280 pp., with plates. 8vo. Paris, 1907. Berger Levrault. 5/-.

Note.—In the same series have already appeared:

Cavalry. Part I. 1740-1789. 2/6.
Artillery. Part I. 18th Century. 2/6.

And now has also been published:

Cavalry. Part II. During the Revolution, 14 July, 1789, to 26 June, 1794. (La Cavalerie pendant la Révolution du 14 juillet, 1789 au 26 juin, 1794.) By Commandant E. Desbrière and Captain M. Santai. 442 pp. 8vo. Paris, 1907. Berger Levrault. 8/4.

P.

Philosophy of War. (Natural and Philosophical Library. Vol. VI.) (Die Philosophie des Krieges. Natur und Kulturphilosophische Bibliothek, Band VI.) By Dr. S. Rudolf Steinmetz. 349 pp. 8vo. Leipzig, 1907. Barth. 7/-.

R.

Railway Officials, Universal Directory of, 1907. 577 pp. 8vo. London, 1907. Directory Publishing Co. 10/-.

S.

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Part III.

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A.

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B.

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W

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Wagons, The utilisation of, for the evacuation of wounded lying down. By Méd.-Princip Hocquard. A.M.P., May.

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Y.

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ABBREVIATIONS.

Abbreviation.	Name of Newspaper or Periodical.		Place of Publication.
A.H.M. ..	Annales d'hygiène et de médicine coloniale ...	M.	Paris.
A.M.B. ...	Artilleristisches Monatshefte	M.	Berlin.
A.M.P. ...	Archives de médecine et de pharmacie militaire	M.	Paris.
A.Q.R. ...	Imperial and Asiatic Quarterly Review ...	Q.	Woking.
A.S.C. ...	Army Service Corps Quarterly	Q.	Aldershot.
B. Mag. ...	Blackwood's Magazine	M.	Edinburgh.
B.P.B.M ...	Bulletin de la Presse et de la Biographie militaire. (Supplement to J.M.O.B.) ...	F.	Brussels.
C.J. ..	Cavalry Journal	Q.	London.
C.R. ...	Contemporary Review	M.	London.
D.M.Z. ...	Deutsche militärärztliche Zeitschrift	M.	Berlin.
D.R. ...	Deutsche Revue	M.	Stuttgart.
Ec. ...	Economist	W.	London.
E.... ...	Engineering	W.	London.
Emp. R.	Empire Review	M.	London.
F. Rev ..	Fortnightly Review	M.	London.
Inj. ..	Injeniernii Jurnal	M.	St. Petersburg.
I R. ...	Internationale Review (Armeen und Flotten)	M.	Dresden.
J.A.M.S. ...	The Military Surgeon	M.	Carlisle, Penn.
J.D.A.M....	Jahrbücher für die Deutsche Armee und Marine	M.	Berlin.
J.M.O.B....	Journal militaire Officiel	M.	Brussels.
J.M.S.I. ...	Journal of the Military Service Institution ...	2M.	Governor's Island, N. York.
J.M.S.S. ...	Obschestvo Revnitelei Voyennikh Znanii ...	M.	St. Petersburg.
J.R.A.M....	Journal of the Royal Army Medical Corps ..	M.	London.
J.S.M. ...	Journal des Sciences militaires...	M.	Paris.
J.U.N.S.W.	Journal of the United Service Institution of New South Wales	A.	Sydney.
J.U.S.I ...	Journal of the Royal United Service Institution	M.	London.
K M. ...	Kavalleristische Monatshefte	M.	Vienna.
K.T.Z. ...	Kriegstechnische Zeitschrift	M.	Berlin.
L.R.I. ...	La Revue d'Infanterie	M.	Paris.
L.S.M. ...	Le Spectateur militaire	F.	Paris.
M.D.S. ...	Mittheilungen aus den Deutschen Schutzgebieten	Q.	Berlin.
M.R ...	Monthly Review	M	London.
M.W.B. ...	Militär-Wöchenblatt	W.	Berlin.
N.C. ...	Nineteenth Century	M.	London.
N.I.A. ...	Nation in Arms	M.	London.
N.R. ...	National Review	M.	London.
O.M.Z ...	Österreichische militärische Zeitschrift ...	M	Vienna.
P.R.A.I. ...	Journal of the Royal Artillery	M.	Woolwich.
P.U.S.I. ...	Journal of the United Service Institution of India	Q.	Simla.
Q.D. ...	Questions Diplomatiques et Coloniales ...	F.	Paris.
R.A.G. ...	Rivista di Artiglieria e Genio	M.	Rome.
Ru du G.	Revue du Génie militaire	M.	Paris.
R.E.J. ..	Royal Engineers' Journal	M.	Chatham.
R.H. ...	Revue d'Histoire	M.	Paris.
R.M.E. ..	Revue militaire des Armées étrangères ...	M.	Paris.
R.M.G. ...	Revue militaire générale	M.	Paris.
R.M.I ...	Rivista militare Italiana	M.	Rome.
R.M.S. ...	Revue militaire Suisse	M.	Lucerne.
U.S.M. ...	United Service Magazine (Colburn's)	M.	London.
V.S. ...	Voyenii Sbornik	M.	St. Petersburg

W., published weekly; F., fortnightly; M., monthly; Q., quarterly.

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